

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

January 13, 1989

STIS: Major NASA CRAD Win

On January 3, NASA Marshall Space Flight Center announced the award of a \$5.5-million contract to Space Systems Division to perform a three-year study entitled "Space Transportation Infrastructure Study (STIS)."

The study will examine the entire spectrum of national space transportation needs, ranging from assembly of the Space Station *Freedom* in the mid-1990s and the support of manned missions to the Moon and Mars during the early 21st century.

Both civil and DoD transportation requirements will be analyzed.

Transportation systems to be investigated will include manned and unmanned Earth-launched vehicles; Space Transfer Vehicles for shuttling people and cargo between the Earth, the

moon, and Mars; and orbiting servicing facilities for maintaining and refueling these vehicles in space.

"This important win against nine competitors provides us with an opportunity to increase our involvement in NASA's planning process and to identify key areas that will influence the evolution of nearly all Space Systems products," said Howard Bonesteel, director of GDSS NASA Advanced Space Transportation Systems.

Approximately one third of the Contracted Research and Development (CRAD) study will be performed in the GDSS Huntsville engineering office.

Mike Simon, leader of the proposal work, will be the STIS program manager, with John Maloney as the STIS deputy program manager.

GDSS Selected for INTEL SAT Negotiations

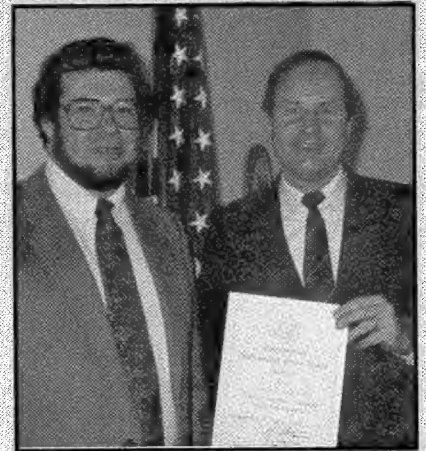
At its December meeting, the INTEL SAT Board of Governors authorized the INTEL SAT Director General to renew negotiations with the preferred bidders, Arianespace and General Dynamics Commercial Launch Services, for the launch of INTEL SAT VII spacecraft. If the results of negotiations are satisfactory, INTEL SAT expects to have contracts for three Ariane 4 and two Atlas IIAS launches ready for Board of Governors approval at its March meeting.

Our proposed Atlas IIAS for INTEL SAT uses four Castor IVA solid propellant motors, increasing payload capability about 25% compared to the Atlas IIA. The Castor IVA is made by Morton Thiokol and is 40 inches in

diameter and 30 feet long, with a thrust of 97,500 pounds and a burn time of 53 seconds.

The INTEL SAT VII spacecraft, which will weigh nearly 8,000 pounds, is being developed by Ford Aerospace for launches beginning in the third quarter of 1992. Five satellites plus options are on contract.

General Dynamics looks forward to renewing our relationship with INTEL SAT, for whom we have launched 24 satellites since 1971. More than 75% of INTEL SAT's operational spacecraft — which now provide international television, telephone, and data service — have been launched by Atlas rockets.



Ernie Clark, left, accepts the Citizen of the Month award from Congressman Jim Bates.

Ernie Clark Receives Congressional Honor

Ernie Clark, checkout electrician in the Production Factory Area, was awarded Citizen of the Month in the 44th Congressional District for November by Congressman Jim Bates.

Ernie's community activities cited in the award include his work in the United Federation of Small Businesses, serving as a board member for five years, vice president for two years, and now as the president of the organization.

In addition, Ernie is a director on the board of the Midcity Business Improvement District, a board member of the California State Electronics Association, and a past president of the Crosstown Optimist Club.

Ernie said he "was surprised and delighted when the call from the Congressman's office came in." He says that he's always enjoyed community involvement and activities.

Space Systems Division

1989 Goals

I would like to welcome everyone back to begin a new year at Space Systems. At this time, it is appropriate to look ahead and to focus on the challenges that await us in 1989.

It will be especially important this year to concentrate on performing well on those tasks currently at hand, perhaps the most important of which is demonstrating our ability to successfully manufacture and fly our space launch vehicles. In 1989, many critical production milestones must be achieved prior to delivering our first Titan/Centaur or flying our first Atlas launch vehicle.

Our 1989 Space Systems Division goals reflect these challenges and others. I hope that by sharing these goals, everyone will better understand what the division has set out to accomplish this year and that you will join me in my commitment to making 1989 a success.



- Achieve 100% success (schedule and performance) on 1989 launches
- Sell all open commercial and MLV II launch positions through 1992
- Meet major milestones on the Titan/Centaur program and secure contract with the Air Force for additional Titan/Centaur vehicles
- Successfully transition to production for Atlas I and Atlas II and attain production start-up for San Diego, Vandenberg Air Force Base, and Harlingen
- Perform to technical, schedule, and cost targets on Advanced Launch System Phase II and Space Station Power contracts
- Win design/production contracts for magnets for the Superconducting Supercollider program
- Provide leadership and management oversight to assure excellence in: administrative activities, the 1989 employee survey, ethics knowledge and retraining, health and safety, equal opportunity, environmental resource management, management succession, and security
- Incorporate management systems to assure compliance with DoD key elements of material management and accounting systems
- Complete: Production Quick Response Center; Integrated Cost Schedule Control System and ARTEMIS systems; strategic (Computer Integrated Enterprise) master plan; management systems to expedite Advanced Launch System technology transfer
- Meet financial goals: funds generated, net and indicated earnings, capital appropriations, B&P/IRAD, contract investment, CRADs, and indirect costs

State of the Division

Everyone is invited to join Dr. Alan Lovelace at the fourth annual Space Systems State of the Division Address on Thursday evening, January 26.

Our NMA chapter and executive host Marty Winkler will sponsor the meeting at the Sheraton Harbor Island Hotel. The prime rib dinner will cost \$12 per person. This is always a popular event, so be sure to get your tickets early!

DIS Audit Successful

The government's Defense Investigative Service (DIS) conducted a comprehensive week-long audit of the Industrial Security program at Space Systems during December.

The results of the inspection were very favorable. According to our Industrial Security office, the rating was due in large part to the division's positive attitude toward security and the knowledge of security procedures shown by employees during the audit, especially in interviews with the inspectors.

"The Industrial Security staff would like to thank employees for their positive contribution to the inspection," said Ron Davis, manager of Industrial Security.

Keep up the good work!

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

David Forsyth, Mechanical Support Fabricator, Vandenberg Air Force Base Operations, 15 years

Wilbur Gish, Program Control Specialist, Master Scheduling, 28 years

Eardis Green, Mock-up Tooling Builder, Production, 36 years

Ernest Miller, Superintendent of Services, Vandenberg Air Force Base Operations, 32 years

Carl Paesel, Jr., Program Administration Chief, Commercial Launch Services, 5 years

Royston Parker, Designer, Structures and Mechanical Systems, 5 years

Tune in on Saturday at 9 p.m. to a special one-hour TV program, "Early Warning" to be aired on Fox Broadcasting Channel 6 featuring several GD product lines, along with an interview with Stan Pace.

Atlas Mix Thought Best to Meet Market Demands

General Dynamics Space Systems announced last month that the production program for 18 Atlas commercial launch vehicles will include a mix of 12 Atlas I's and six higher-performing Atlas II's.

"We have taken this step to meet the growing market demands for a variety of performance and payload ranges for our Atlas family of launch vehicles," said Dr. Alan Lovelace, corporate vice president and general manager of Space Systems. "This decision, coupled with our success in winning the Air Force Medium Launch Vehicle II program and the recent decision by INTELSAT to enter into negotiations for Atlas launches, will enhance our ability to keep pace with future launch demands worldwide."

Atlas I is the basic launch vehicle identified for commercial missions. It can place up to 4,950 pounds of payload in geostationary transfer orbit (GTO). Atlas II, which will perform the Air Force's important Medium Launch Vehicle II missions, is a growth version of the Atlas I.

Space Systems is also developing the Atlas IIA, which is the commercial version of the Atlas II, and Atlas IIAS for the commercial market. Atlas IIA will be able to send 6,200 pounds of payload into GTO, while the more powerful Atlas IIAS will handle up to 8,000 pounds.

Introducing Our New Ethics Director

Alda Jorgenson is the new Ethics and Community Relations director for Space Systems.

In Alda's new position, she will be responsible for administering, managing, and responding to ethics complaints or inquiries, investigating issues, making recommendations, and responding to employees as well as providing ethics awareness training. She will also represent Space Systems in community relations activities and manage contributions and memberships.

A General Dynamics employee since 1983, Alda most recently served as the administrator of College Relations.

In other Ethics news, Howard Biegler is now in charge of the Ethics program at Cape Canaveral Air Force Station following Warren Holley's retirement. Howard is a senior engineer with the Titan/Centaur Avionics Group and is a newly elected national director of NMA.

At Vandenberg AFB, George Meese continues to be responsible for Ethics.



1988 Cost Reduction Efforts Top \$92 Million Savings

The combined estimated savings through the Cost Reduction Proposal (CRP) program and the Employee Suggestion (ES) program at Space Systems came to a grand total of \$92,850,000 for 1988.

"This is outstanding," said Dennis Bartlett, administrator of Motivational Programs. "It's evident that many people are thinking of new and better ways to accomplish tasks."

The CRP program had 191 participants, with 377 ideas submitted. CRP ideas are always associated with the participants' jobs, and the savings is determined after the idea is implemented. These employees received merchandise awards and award certificates.

Two hundred people participated in the ES program and collectively submitted 1,100 ideas. If their ideas were either outside their job assignments or hadn't been the subject of a management study or not yet been implemented within our division, they were eligible for cash awards. ES awards ranged from \$50 up to the maximum award of \$10,000.

"Employee participation was the key to this successful program," said Bernie Kulchin, vice president of Human Resources. "We encourage everyone to be on the lookout for better ways to do your job in 1989."

ALS Funds Released

Funds for the Advanced Launch Systems Phase II Demonstration/Validation contract were released on December 27 by the U.S. Air Force Space Division. Estimated value of the contract is \$82.7 million. Martin Marietta/McDonnell Douglas and Boeing Aerospace, other Phase II awardees, were funded as well.

The ALS Phase II goal is to demonstrate and validate various new and applied technologies for implementation into a family of launch vehicles, significantly reducing costs when compared to existing systems.

GDSS technology demonstrations are in Avionics and Booster Recovery. The Booster Recovery tech demo, which focuses on partial reusability of the main propulsion engines, is of particular interest because of its applicability to the Atlas as well as the ALS.

Phase II is scheduled for completion in 25 months. Another competition will be held for Phase III, Full-scale Development. The first ALS launch is scheduled for 1998, with initial operational capability scheduled for 2000.

Space Briefs

In other new business announcements, we were awarded a six-month, \$1 million **Advanced Antisatellite System** study by the U.S. Air Force Space Division. . . . The next **Management Support and secretarial** brown-bag luncheon will be held on Thursday, January 25 in the Titan/Centaur MIC room, CP2 . . . **Russ Thomas** will be the guest speaker at the Cape's NMA Top Management Night dinner on January 19. . . . Start your new year **smoke-free** by signing up for CRA's Live and Breathe Smoking Cessation program. . . . On a more serious note: **Chain letters are out!** Not only are they illegal if circulated through the U.S. Postal Service, but a waste of time and effort in our mail system. Please destroy them. . . . Space Systems **employment** for the week ending December 30 was 4,144.

Supervisors

Please distribute a copy of
the *Orbiter*
to each employee
along with paychecks
every other Friday.

Emergency Phone Numbers

San Diego

Kearny Mesa	
Fire & Ambulance	33555
Century Park	
Fire	9 911
Ambulance	33555
Viewpoint Plaza	
Fire	9 911
Ambulance	33555
Daley Building	
Fire & Ambulance	9 911
Air Force Plant 19	
Fire	26555
Ambulance	26555
Harbor Drive	
Fire & Ambulance	26555
Sycamore Canyon	
Fire	33555
Ambulance	33555

Vandenberg Air Force Base

Fire, Ambulance, Police 911

Cape Canaveral Air Force Station

Fire 117
Police 853-2121
Ambulance 853-2222

Recognition for Community Service

General Dynamics has started a corporate program to honor employees who perform volunteer charity work.

The Community Service Award will include a \$1,000 contribution in the recipients' names to the organization for which they volunteer. You can nominate yourself or a coworker who is active in an educational, charitable, civic, or community service organization. Nominees don't have to be officers of the organization in which they serve.

The deadline for submitting nominees is January 31. More information and applications are available through the Community Relations office at 77447.

Cans for Critters

During February, all four San Diego divisions of General Dynamics will be saving aluminum cans to raise money for the San Diego Zoo's Center for Reproduction of Endangered Species.

The goal is an ambitious \$10,000. Every employee contributing even *one* aluminum can a day during the month will make it possible to meet that goal.

A kickoff assembly at the Kearny Mesa cafeteria is set for January 26 at 4:30 p.m. If you are interested in helping out, please call Solange Szwarc at 27522.

The *Orbiter* will be on vacation the week of January 27. The next issue will be printed February 10.



The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Terry Bohlen, CLS marketing representative — work together, to show the superior products they produce, and to share newsworthy information about events affecting us.

Terry is a valuable member of Commercial Launch Services. Educated as an aerospace engineer, he now serves in a marketing capacity. The primary mission of CLS is to launch satellites using Atlas launch vehicles. Terry supports this goal by doing a great deal of research on the satellite market looking for potential customers.

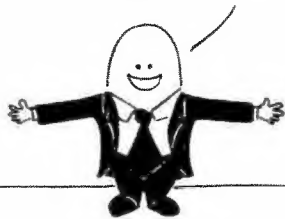
Terry's parents came to San Diego from Michigan over the Christmas vacation to visit him and his wife, Diana. They most enjoyed going to the Rose Bowl, with seats at the 40-yard line. And, of course, they cheered for the winning team, the Michigan Wolverines.

— Bill Walker, SDSU Intern

Space Systems Division *Orbiter* is published every other Friday. Items of interest to readers should be addressed to *Orbiter*, Mail Zone V2-7145 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 576-5705. Rita Jackson, Cape Canaveral 853-7255. Ruth Cameron, Vandenberg 866-1709. Camille Kahler, Huntsville 880-0660. Linda Loffredo, Editor

GRANTBAND®

FOR OUR NEXT EXERCISE, I WANT YOU TO THINK OF ALL THE GOOD THINGS YOU'D LIKE TO SEE HAPPEN IN THIS NEW YEAR. BE CREATIVE. DREAM.



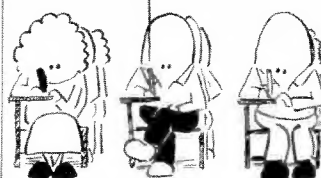
LET YOUR IMAGINATION GO!

"I'LL MEET ALL MY DEADLINES AND COME IN UNDER BUDGET."



BE BOLD, BEDARING. THINK OF SOMETHING EVEN WILDER.

"THE COPIER WON'T BREAK DOWN, AND MY DESK WILL BE CLEAN."



NOW REALLY LET YOURSELF GO. DREAM THE IMPOSSIBLE!

"I'LL GO A WHOLE WEEK WITHOUT MEETINGS."



W. H. R. 1991

February 24, 1989

GD Enters Space Systems for National Award

The "Distinguished Prime Contractor of the Year" award is the U.S. Small Business Administration's way of recognizing large prime contractors for sustained superior small business subcontracting program performance. 1989 is the second year for this awards program.

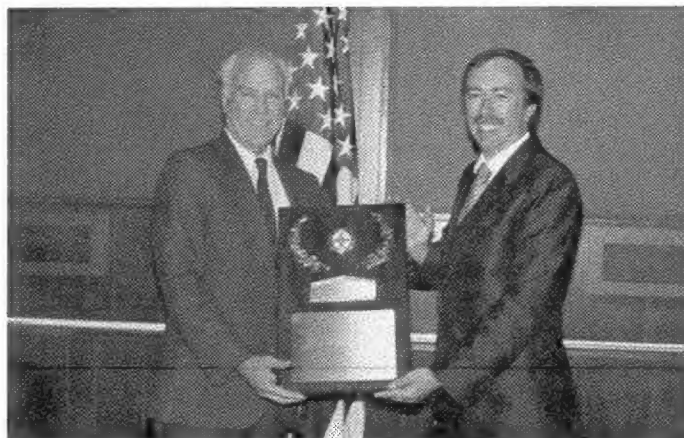
Last year, more than 40 major prime contractors participated in the 1988 "Distinguished Prime Contractor of the Year" program. Ten firms received recognition regionally in 1988 and from these winners, one firm was selected as the national award winner.

This year, General Dynamics requested that all divisions submit a nomination detailing their Small Business and Small Disadvantaged Business programs. Space Systems was selected as the corporation's 1989 candidate for the award.

Dave Pooler, Material corporate director, stated, "The information package supplied by Space Systems was well prepared and clearly demonstrates a commitment to the growth of small and minority business enterprises. . ."

Our division has worked very hard to develop a strong program, as evidenced by an increase of small business activity from 12% in 1987 to 63% in 1988, and an increase in small disadvantaged business activity from 0.3% in 1987 to 5.5% in 1988. Roy Bennett, Material division vice president, said, "We have developed and implemented many new programs in response to the challenge of increasing our subcontracting activity with small and disadvantaged businesses. We are extremely proud of our accomplishments thus far and will continue to strive toward increasing opportunities at Space Systems."

A panel of judges will select one prime contractor from each region by March. Following that, the national winner will be announced during Small Business Week ceremonies held in Washington, D.C. in May.



On left, Chuck Harter, director of Vandenberg Operations, and George LaCombe, senior safety engineer, accept the WSMC Best Contractor Ground Safety Award for 1988 on behalf of all Vandenberg employees.

Vandenberg AFB Receives Best Contractor Ground Safety Award

The Space Systems team at Vandenberg Air Force Base was presented with the Western Space and Missile Center Commander's Best Contractor Ground Safety Award for 1988.

VAFB Space Systems employees worked together as a team to achieve quality, launch schedule, and cost goals in a safe manner.

During 1988, there was plenty of activity at VAFB, which included preparation for the delivery of Atlas I and II; building a new Class 100,000 clean room; the retrofit of three missile handling trailers; the expansion of the machine shop; and construction of payload fairing access platforms.

In addition, Atlas vehicles 54E and 63E were successfully launched from SLC-3 West. This extends the Atlas flight record to eighteen successful missions, the current longest mission success rate of any launch vehicle.

Numerous procedures were reviewed and more than two hundred hazardous operations had to be completed throughout the year. Some of the hazardous operations were: booster/ adapter/ fairing and spacecraft transport, erection, mate and arming tasks; RP-1 and LOX transfers; engine flushing; and ordnance checkout. Many of these operations were completed during inclement weather, extended shifts, or at night.

Inside this Issue

- *Computer Virus Controlled*
- *Childcare Resource Center Opens*
- *San Diego Engineer of the Year Is Space Systems Employee*

Ed Hujsak to Be Honored as San Diego Engineer of the Year

This is a very special day for Ed Hujsak, for today he will be honored as the San Diego Engineer of the Year. And after 38 years of service, this is also his last day at General Dynamics.

Ed was selected by the American Institute of Aeronautics and Astronautics (AIAA) as their candidate for Engineer of the Year. AIAA then met with 36 other local professional societies to select the representative for San Diego Engineering Society's Engineer of the Year. That's when Ed was selected.

Ed's experience is in the design, development, application, and management of advanced space structures and propulsion stages for launch and space vehicles. He has been awarded twelve patents and has four patents pending — evidence of his creativity.

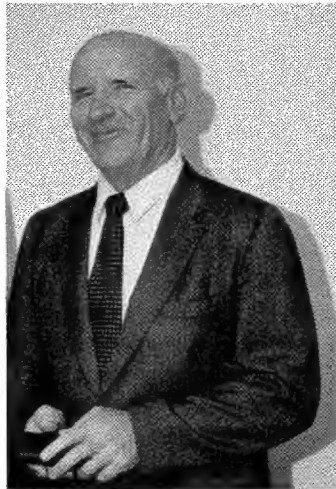
He started as a design engineer on the Atlas ICBM propulsion system and progressed to increasing levels of responsibility, becoming assistant chief engineer for mechanical design of the Atlas weapon system.

After 10 years, Ed moved into advanced applications preliminary design as chief of preliminary design for Atlas Launch Vehicle programs, where he progressed to senior engineering staff specialist.

In the past few years, he provided technical leadership in Advanced Space Structures and the Spacecraft Maneuver Module. Ed also provided significant contributions in the early phase of the Advanced Launch System and subsequently was chief engineer for the Adaptable Space Propulsion System and Advanced Upper Stages.

Ed has written extensively for magazines such as *Mechanical Design* and has published many professional papers.

We extend our congratulations to Ed as San Diego Engineer of the Year and our best wishes for retirement.



Up the Ladder

Congratulations to the following people who received promotions these past few months. In the interest of space (no pun intended), only salaried grade 15 and above are listed:

Wendy Mihalic and Elaine Kramer were promoted to Estimating chiefs. . . Mike Altieri to Cost Development engineering specialist. . . Jim Kelly, Jr. and Leslie Bakker to senior program administrators . . . William Mitchell, Ken Dawson, Hank Thomas, and Jim Oates to engineering chiefs. . . Larry Gilmore to manager of Master Scheduling. . . Matthew Smith, Gary Tsuji, Peter Mac Neil, and Rick Beach to engineering specialists. . . Roger Rondeau, Debbie Faulk, and Shelley Sinclair to senior procurement specialists . . . Don Bitler to group engineer - Quality Assurance. . . Sam Wagner to engineering estimating chief. . . John Soltmann, John Hutcheson, Bob Morin, and Roland Sedlund to senior engineering specialists. . . Doug Vaughan to purchasing agent. . . Rich Lanes, Dan Smith, Michael Hoerster, and David Palmbach to engineering specialists. . . Dan Little to Procurement chief. . . Bob Bradley to Estimating manager. . . John Sieb, Craig Rix, Skip Lotker, and Joe Lewis to engineering specialists. . . Ed Herring to Logistics supervisor. . . Jim Craycraft to Facilities Planning chief. . . Joe Bradshaw, Robert Hallenbeck, Marv Steinman, and Jerry Hopkins to senior engineering specialists. . . Bob Frye to contract negotiator. . . Jon Treat to engineering specialist - Mechanical Engineering. . . Sharon Narang to senior Procurement specialist. . . Jim Winger to engineering specialist - Quality Assurance. . . Ann La Forest and Ronald Hoefer to engineering specialists. . . Jimmie Fletcher, Archie Yates, and Keith Meholic to Human Resources specialists . . . Kerrie Ellis to Operations supervisor - IE. . . Jim Stone to Operations general supervisor - Manufacturing Control. . . Ann Stonecipher to Master Scheduling supervisor. . . Dave Murany, Winston Armstrong, and Dave Unkrich to engineering specialists. . . John Moran to Procurement administrator. . . and Dan Schmidt, Dick Sweatt, Dick Smith, and Bob Mack to engineering specialists senior.

From an Ethical Point of View

by Alda Jorgenson

Lately, I have received many complaints about chain letters being circulated within our division.

Chain letters are a nuisance, and often personally threatening. Some chain letters mention dire consequences for anyone who dares break the chain.

Chain letters serve no useful business purpose and are not appropriate in the workplace. Additionally, it is a violation of General Dynamics Standards of Business Ethics and Conduct to use company resources such as reproduction machines or the distribution system to create or disseminate chain letters.

If someone asks you to distribute or respond to chain letters, please, "JUST SAY NO."

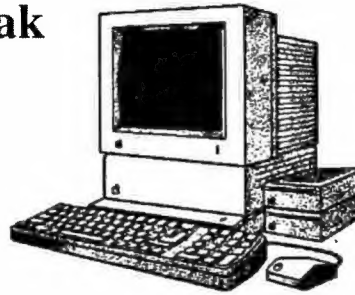
Bob Ford Receives U.S. Patent

Bob Ford was granted a U.S. patent for his invention of the Metal Hydride Thermostat. Bob is an engineer in Systems Analysis, currently assigned to the Advanced Launch System program.

His invention is a flow control device actuated by fluid temperatures. Although current and future applications exist for this passive fluid thermostat in active cooling systems for launch vehicles, Ford's invention has a unique feature. He uses a metal hydride compound inside a bellows.

The bellows pressure can be preset or adjusted by hydrogen pressure control to determine that the bellows will open at the correct temperature. The bellows movement is gradual, and the life of the hydride is indefinite.

Computer Virus Outbreak Controlled



Earlier this month, 60 Macintoshes at our San Diego facilities were infected by an outbreak of the "nVIR" computer virus. Thanks to the quick response of Information Resource Management (IRM) computer experts and the help of the PC (Personal Computer) coordinators, they were able to contain the virus.

How was the virus introduced? It's impossible to know for sure, but one clear possibility is through public domain software introduced by a floppy disk. Many infected Macintoshes were found to have public domain software loaded on their hard disks, despite the fact that it is specifically prohibited by Division Notice 88-32.

Another possibility is that an infected floppy system disk, or a disk with an application — or both — was used on a Macintosh and the virus spread to the machine's system. From there, every application used on the now-infected machine likewise become infected.

IRM will be publishing a special newsletter about virus prevention and detection. Please call IRM at 68669 for response to queries about the virus or for more information.

John Shalhoub Leads MRP II



John Shalhoub has been appointed director of the newly established function of

Manufacturing Resource Planning II.

A General Dynamics employee since 1983, John joins us from Land Systems Division, where he was manager of Procurement and project manager of MRP II.

Johns holds a BBA in Business Management from Eastern Michigan University and an MBA in Management Systems from the University of Detroit.

Manufacturing Resource Planning, more commonly known as MRP II, is a method for the effective planning of all resources of a manufacturing company.

MRP II is a people system (aided by the computer) integrating all functions of doing business into a top-down planning and scheduling "closed-loop" system. It is closed loop in that each bit of data change drives subsequent data changes; hence, adjustments are made in order for plans to remain in balance with valid schedules.

The concept of MRP II will result in a new way of doing business at General Dynamics Space Systems Division.

New Guidelines on Company-Sensitive Information

General Dynamics has developed a new procedure for the protection of company-sensitive information. This new policy established three categories of company-sensitive information:

GD Employee Data
GD Private Information
GD Proprietary Data

A significant change in the new procedure concerns the transmittal and storage of private and proprietary data. These changes are:

- *Double wrapping and property passes are no longer required for private information when exiting the facilities.*
- *The requirement for locked storage of private information has been eliminated.*
- *Double wrapping is not required to hand carry proprietary data between local facilities; however, a property pass is required to hand carry proprietary data outside the facility.*
- *As in the past, any sealed package will require a property pass regardless of its contents.*
- *Certain proprietary data which has been determined by the originator to be sensitive and to require locked storage will have a purple cover sheet affixed to it.*

A complete explanation of this new policy will be addressed in SP 21-120 which is currently in revision. To answer most questions, refer to the matrix on pages 4 and 5 of the latest GD telephone directory. If you need additional assistance, contact your department security representative or call Industrial Security at 75325.

Space Briefs

Congratulations to **Chris Vannoy**, selected as the Material Employee of the Month for December. . . . The picnic area outside Century Park Three is complete. Look for a cafeteria in the building later on this spring. . . . **Renate Cavanaugh** is the January Employee of the Month for Quality Assurance. . . . **Steve Leitgeb**, **Stacy Fortner**, and **Rita Jackson** were guest speakers at the Florida Institute of Technology Career Days '89. . . . CRA is sponsoring a new program entitled "Smoke No More" for those interested in quitting smoking. Call CRA at 39921. . . . The form "Request for Long Distance Authorization Number" has changed. Until it is

available at the forms store, please call Steve Rambo at 65222 to obtain the new form. . . . Thanks to General Dynamics participation in the **Holiday Food Drive**, over 140 tons of nonperishable food items were collected for San Diego's needy families. . . . **Weight Watchers at Work** is getting ready to begin new sessions of the program. Meetings are held during lunch time from 11:45 a.m. to 12:30 p.m. on Tuesdays at Century Park Two and on Wednesdays at the CRA. For more information, call Nancy Rose at 38191. . . . **Space Systems employment** for the week ending February 17 was 4,266.

Child Care Resource Center Opens



In response to the growing needs of our employees, the Space Systems Child Care Resource Center officially opened on February 14. A ribbon cutting ceremony with Bernie Kulchin, vice president of Human Resources, began the two-hour open house.

Susi Cowan, coordinator of the program, explained, "The center is designed as a self-serve facility, set up to assist parents in locating child care referrals, whether close to home or work." The walls are covered with enlarged color-coded maps which correspond to the binders on the shelf. Over 500 child care providers are listed in the binders, as well as alphabetically in filing cabinets.

The new Child Care Resource Center will also provide many interesting articles on child care, legislative issues, and other related topics that may assist those in search of quality child care. Monthly brown bag luncheons will be sponsored to host guest speakers on a variety of child care topics.

The Child Care Resource Center is in Kearny Mesa building 26, second floor, between columns A3 and A5. Any questions or comments should be directed to Susi Cowan at 38979.

Announcing the 1989 NMA Scholarships

Nomination forms for the GD Space Systems 1989 NMA Scholarship awards are now available. This program gives scholarships to high school seniors (or no more than one semester out of high school) to assist with higher education.

Applicants must be a legal dependent of any Space Systems employee.

Winners will be selected by the scholarship awards committee based on the written application, transcript data, and an interview with the committee. Applications are due no later than March 27. Winners will be announced at the May NMA dinner meeting.

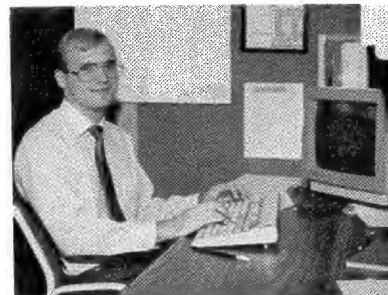
The amount of each scholarship is dependent on the contributions employees make throughout the year. Your continued support through NMA raffle ticket purchases will enhance the amount of the scholarships. See your NMA booster for details or call Debbie Faulk at 79014.

New Drama Club Plans Summer Production

The Drama Club's play reading committee is busy selecting a summer production for the CRA Players. Workshops in acting, makeup, and other areas will be presented.

Join the charter club of the CRA Players now if you're interested in sharing your skills and talents!

Call Barbara Robbins at 77571 or Tom Walker at 39933 for more information.



The purpose of Space Systems Division *Orbiter* is to report the way employees — like Dan Rupert, mechanical engineer — work together, to show the superior products they produce, and to share newsworthy information.

Dan was assigned to Industrial Engineering to operate a new computer system to develop time standards by which the factory's performance is measured. These standards are also used for manpower forecasts, crew loads, and estimates on new contracts.

The new computer helps Dan do his job better in a couple ways. It reduces the amount of time spent on calculations. It also provides a tangible record of how estimates and performance targets are derived for our customers.

A graduate of Drexel University in Pennsylvania, Dan and his wife, Ikiko, say that the great California weather makes them feel like they're still vacationing.

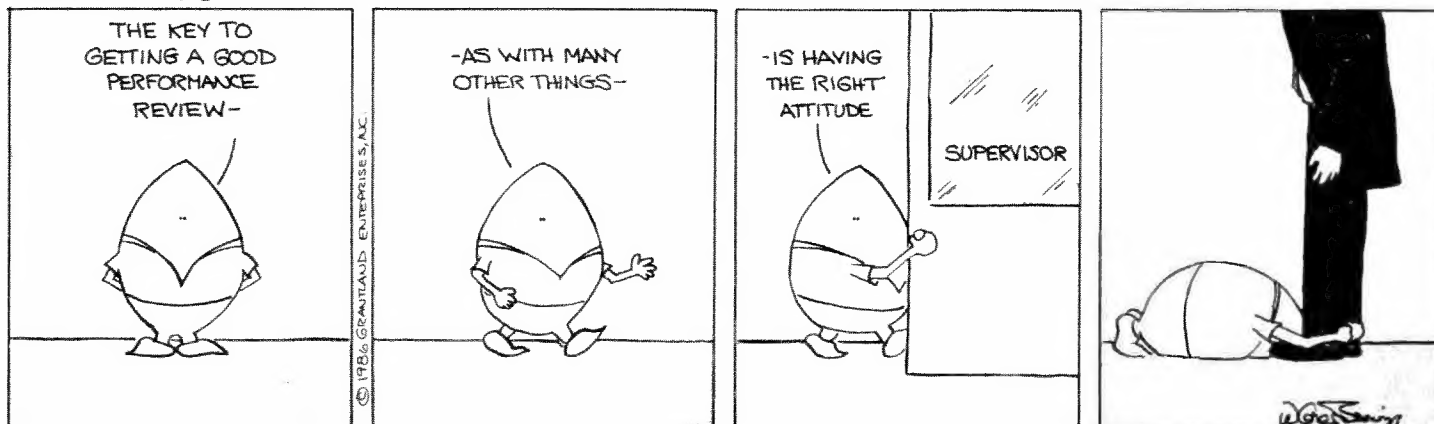
— Bill Walker, SDSU Intern

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Ruth Cameron, VAFB 866-1709
Camille Kahlert, Huntsville 880-0660

Linda Loffredo, Editor

GRANTLAND®



ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

March 24, 1989

Put on Your Walking Shoes — It's Time for WalkAmerica!

Saturday, April 29, is the date set for the annual March of Dimes WalkAmerica in San Diego. The walk with people from Space Systems, Electronics, Convair, DSD Western Center, and the San Diego community begins at 8 a.m. at Mission Bay.

An estimated 8,000 San Diegans will walk for life, the largest local fund-raising effort for the prevention of birth defects.

Participants solicit sponsors who pledge a certain amount of money for each kilometer completed along the 25-kilometer (15.5-mile) route.

Last year, General Dynamics was the top fundraiser at the annual event, with 588 employees collecting more than \$46,000 for the March of Dimes.

According to returning coordinator of the Space Systems WalkAmerica, Julie Greco, "The success of this fundraiser is largely attributable to individuals, like so many of us here, who have joined in on the battle against birth defects."

Monies raised and collected for WalkAmerica '89 will benefit birth-defect prevention programs and fund research at the Salk Institute, Scripps Clinic, UCSD Medical Center, and Children's Hospital.

Birth defects are the nation's number one child health problem. A quarter-million babies are stricken each year by one or more of the 3,000 known disorders.

All walkers (including non-GD spouses and friends) will receive a specially designed General Dynamics/WalkAmerica T-shirt that can be worn on the day of the event. Prizes will be given for a number of activities. Additionally,

General Dynamics is hosting a free picnic immediately following the walk for all our participants.

Sponsor sheets are now available. Options for each sponsor include a flat donation or a pledge per kilometer walked. Each walker is then responsible for collecting the monies prior to, or soon after, the event. Sponsor sheets can be obtained from the following team leaders:

Jane Duby	75974
Gordon Williams	77127
Becky Redmon	38694
Janet Lacefield	68787
Coralynn Nutter	68808
Jane Schauer	77247
Lori Rose	66722
Cece Simon	78038

If you'd like to be a team leader or learn more about WalkAmerica, call our Space Systems coordinator Julie Greco at 66572.



Intelsat Board Authorizes Contracts for Intelsat VII Launch Services

Nairobi, Kenya, March 15, 1989 —

The 79th meeting of the International Telecommunications Satellite Organization (Intelsat) Board of Governors today authorized Director General Dean Burch to contract with Arianespace and General Dynamics Commercial Launch Services, Inc., for Intelsat VII launch services. Three Intelsat VII spacecraft will be launched on Arianespace and two on General Dynamics launch vehicles.

The assumed launch dates for the General Dynamics Intelsat VII spacecraft are the first and second quarters of 1993.

Intelsat is an international, commercial, not-for-profit cooperative of 116 member nations that owns and operates the global communications satellite system used worldwide by countries for their international and, in many instances, their domestic communications.

The predominate provider of transoceanic telephone and television services, Intelsat also offers via its 14-satellite global system such services as international video teleconferencing, facsimile, data, and telex.

(News release from the International Telecommunications Satellite Organization.)

Cans for Critters Check Presentation

50,000 aluminum cans were collected from the San Diego divisions of General Dynamics during the Cans for Critters campaign in February. The cans raised \$1,500, which will be given to the Center for Reproduction of Endangered Species. Paul Cofoni, DSD Western Center director, will present the check to the San Diego Zoo on behalf of General Dynamics on Friday, March 24. All employees are invited to attend the event at 4:30 p.m. at the CRA Pavilion in Missile Park. In addition to free munchies, you'll find a few "live" zoo critters at the event.

Grant Supports Educational Teleconference

Thanks to an \$11,000 grant made by Space Systems, *Pioneers of the High Frontier* will be making its fifth educational teleconference on April 4. This broadcast will feature the crew of Apollo-Soyuz, the first American-Soviet mission in space. Astronauts and cosmonauts will be available to answer questions from kids of all ages. The past, present, and future of the American and Soviet space programs and joint missions in space will be discussed with a student-moderated, in-studio panel of 12 Soviet and American students representing grades 4 through 12. Students from across the nation will also be phoning in questions during the teleconference. Viewers can watch the live broadcast on Westar 4, Transponder 10 (D), or channel 19 between 9:00 a.m. and 10:30 a.m. Copies of the video will also be available for employee checkout through Training and Development following the event.

Greater San Diego Science & Engineering Fair

The 35th annual Greater San Diego Science and Engineering Fair will be open to the public on Thursday, April 13, through April 16 at the Federal Building in Balboa Park. The Fair features exhibits from a dozen categories submitted by students in the seventh through eleventh grades in San Diego and Imperial Counties. The purpose of the Fair is to provide additional motivation for young people to apply creativity and critical thought to the solution of science, engineering, and mathematics problems. The Fair provides students, teachers, parents, scientists, and engineers an opportunity to meet, exchange knowledge and ideas, and to discuss career opportunities. Several General Dynamics employees will be participating in the Fair. Dr. Bruce Cordell will be involved with the selection of the General Dynamics scholarship award. For more information about the Fair, the entries, and scholarships, call Dick Bethel at 78957.

Companywide Golf Tournament Planned

General Dynamics is holding a companywide golf tournament to be hosted by the GD Recreation Association at Fort Worth on May 5, 6, and 7. The CRA will be sending a team of five players to the event. Since the GD-wide tournament is a scratch event, there will be a qualifying round to select the best golfers to represent the San Diego divisions. The qualifying round will be held at Carmel Mountain Ranch on April 16 and will be a low gross (scratch) tournament. To play in the qualifier, participants must have an established handicap through the SCGA or other golf association and have the verifiable low handicap of 9 or less as of March 1989. The field will be limited to the first 100 players who sign up and send in their \$48.00 green and cart fee. To sign up, call Dorian at the CRA office, 39918, by April 7.

Barry Eng Patents Invention



Barry Eng, an engineer in Manufacturing Engineering, recently received a patent for his invention entitled, "System Including a Portable Heat Gun for Curing Advanced Composite Workpieces."

This invention has many improvements over existing systems for localized curing of epoxy resins. A special gun is used with a control system which regulates the temperature, how long heat is applied, and the distance from the workpiece.

In the past, manual curing resulted in costly scrapping of parts and schedule slippage. Now with an automatic system, appropriate parameters can be preset to achieve reliability and consistency in the curing.

Barry also received a monetary award from the GD Legal Department for issuance of the U.S. patent.

Update on Child Care Resource Center

Nearly 600 additional child care providers were recently surveyed, then added to the Child Care Resource Center. The survey was conducted through the San Diego Family Day Association, whose members are child care providers who normally operate out of their homes and care for six children or less. Many of these people provide infant care. The results should be available to our Child Care Resource Center by June 1.

3/24/89

Alcohol and Drug Abuse Training Continues

Training for supervisors and union officials on the new corporate alcohol and drug abuse policy will continue through the end of this month.

The four-hour training sessions have given key personnel an opportunity to familiarize themselves with the new policy regulations and aspects of referral for assistance and counseling. The policy also outlines sanctions for employees who are judged too impaired to perform their jobs.

Other significant points of this policy revolve around rules of conduct for employees, alcohol and illegal drugs on company property, rights of inspections, for cause, and preventative drug testing.

All employees will soon receive a comprehensive brochure that provides details of the company's new policy. Program implementation is scheduled for April 15.

Questions about the training classes or details of the new policy can be directed to Michael Felchlin at 68880.

Vandenberg Sponsors Speech Contest at Local High School

The NMA Vandenberg Chapter sponsored an American Enterprise speech contest at Ernest Righetti High School in Santa Maria, California.

The speech contest was introduced this year to promote a better understanding of the American enterprise system among high school students and to increase everyone's awareness of the important role that a free economy plays in our society.

The contest was also designed to encourage the development of communication skills that are vital to those entering the work force and to American businesses.

John Monti, a senior at Ernest Righetti High School, was awarded first place in the contest. Jorg Haensel and Kristine Carver placed second and third, respectively.

General Dynamics Space Systems will sponsor John Monti in the California Central Coast Area Council speech contest to be held in May.

Students are competing for scholarships totaling \$13,500 in area contests and \$9,000 at the national finals during October in Nashville, Tennessee.

General Dynamics is proud to be among the major contributors to the contest.



From left: Terrie Hamen (Space Systems), Kristine Carver, Jorg Haensel, John Monti, and Russ Johnson (Space Systems).

Survey of Your Involvement with Colleges and Universities

General Dynamics is developing a databank profiling employee involvement with colleges and universities. This information will enable the company to gauge the current level of employee involvement with these institutions. It will also be used in determining what levels of programs, activities, and contributions (e.g., matching gifts program) are appropriate in the future.

So far, we've discovered that a number of General Dynamics employees are involved in campus organizations and participate in various school-sponsored functions. Some employees serve as board and committee members, while others teach on campus.

If you are actively involved with your alma mater or another school, here or somewhere else, please fill out the form below and mail it to Community Relations at mail zone 22-7000. Thank you.

University Outreach Project

Name _____ Extension _____

Department _____ Mail Zone _____

College or University _____

How are you involved? _____

Space Briefs

A management support and secretarial brownbag luncheon will be held on March 29 in the CP1 MIC Room from 11:45 a.m. to 12:30 p.m. . . . A

Preretirement Planning Seminar is scheduled for March 29, for five consecutive Wednesdays from 5:30 to 7:30 p.m. Information will cover company retirement benefits, social security, financial planning, wills and trusts. Spouses are encouraged to attend. Call 39911 to make reservations. . . .

Tickets for the **Sock Hop** on April 21 are going fast. See your NMA booster for tickets soon. . . . **Left-hand turns** from southbound traffic between CP buildings 4 and 5 may get you a ticket. The two solid yellow lines on Kearny Villa Road mean a driver is supposed to go to the stoplight to make a left-hand turn onto Century Park property. . . . **Space Systems employment** for the week ending March 17 was 4,355.

Be A... **Blood Bank Donor**

The General Dynamics blood drive in San Diego will be held March 27 through March 31. Our participation makes it possible to provide blood replacement services to the community. Please call 38232 to make an appointment at one of the following locations:

Kearny Mesa on March 27, 28 - 8 a.m. to 1 p.m.

Lindbergh Field on March 29, 30 - 8 a.m. to 1 p.m.

Air Force Plant 19 on March 31 - 8 a.m. to 4:45 p.m.

New San Diego Blood Bank T-shirts will be given to each donor. Please bring your donor ID card if you have one. When donating blood, direct-charging employees should use account 6293. Indirect-charging employees should use their usual indirect account.

Maintenance Guidelines

The following maintenance and janitorial guidelines are being published for the convenience of employees located at Century Park, Daley Center, and Viewpoint Plaza.

Maintenance working hours are 6:00 a.m. to 2:30 p.m. Problems should be reported to Kearny Mesa Dispatch at 39777. Problems during non-working hours should be reported to the security officer in your building, who will then contact appropriate personnel.

An emergency situation is considered one that requires an immediate response. Examples include building structural damage, elevator shutdown, blown fuses, water problems, overflowing toilets, roof leakage, etc.

Situations requiring action to be taken in a reasonable amount of time are deemed non-emergency. Examples include shutdown of lighting, heating, or air-conditioning, restocking of restroom supplies, replacing lightbulbs, emptying trashcans, repairing broken locks, etc.

Temperature parameters for these offsite facilities have been established because of the increasing number of complaints about extreme cold or hot conditions. These buildings will operate at 68° when heated and 75° when air-conditioned. This range will provide a comfortable working environment within energy conservation requirements.

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like John Burgeson, engineering specialist — work together, to show the superior products they produce, and to share newsworthy information.

John works in the Huntsville engineering office. He is currently at work on our Liquid Rocket Booster study, preparing conceptual designs of a liquid booster that could be a direct replacement for the current solid rocket boosters in the national Space Transportation System (Shuttle).

Joining the company in 1950 as a structural design engineer, John has worked on all the aircraft programs from the R3Y-1 seaplane through the DC-10 commercial jet program.

John has also worked in energy systems designing superconducting coils. Other programs he's worked on include the large coil for Oak Ridge, the Mirror Fusion Test Facility and 24-Tesla coils for Livermore, and the Superconducting Super Collider. He has received three U. S. patents for the design, construction, and operation of superconducting coils.

When asked how he feels about his career, John says, "I've gained a great deal of knowledge and knowhow from my years of working on various programs at GD. The most important thing I've learned is how important it is to pass on what we've learned to our fellow employees."

— Camille Kahlert, Huntsville Reporter



Space Systems Division *Orbiter* is published every other Friday. Items of interest to readers should be addressed to *Orbiter*, Mail Zone V2-7145 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 576-5705.

Rita Jackson, Cape Canaveral Air Force Station	853-7255
Ruth Cameron, Vandenberg Air Force Base	866-1709
Camille Kahlert, Huntsville, Alabama	880-0660
Linda Loffredo, Editor	

GRANTLAND®



ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

April 7, 1989

New Alcohol and Drug Abuse Policy

Space Systems' new Alcohol and Drug Abuse Policy will soon be implemented throughout the division.

The new policy will focus on employees who show behavior impaired to the extent that they are unable to effectively and safely perform their job. The policy emphasizes a compassionate approach to employees whose behavior leads their supervision to believe that a medical assessment is necessary. Trained medical officials will then decide if the employee should provide a sample for drug screening.

The move toward drug testing is in response to legislative pressure for contractors (i.e. Drug-Free Workplace Act and DoD Interim Rule) that receive federal monies to assure that all employees are working to their optimum ability, and not performing in an impaired state. General Dynamics is assuming that responsibility.

Alcohol and drug testing protocol is outlined in the policy, as well as how an employee who needs help can receive it in a private and voluntary manner through the Employee Assistance Program (EAP). To be considered a voluntary self-referral, an employee must enter into the EAP prior to a positive drug test.

All employees will soon receive a brochure which outlines the new policy and the specific responsibilities of conduct that will be expected of employees.

SSD Selected for Regional Award

General Dynamics Space Systems was selected as the Small Business Administration's (SBA) 1989 Distinguished Prime Contractor of the Year for Region IX.

The award provides recognition of the exemplary efforts of large federal prime contractors on behalf of small business subcontractors.

The national winner was selected from the ten regional winners and will be announced during Small Business Week in May. Regional and national winners of the Distinguished Prime Contractor of the Year honors will be recognized during a conference and awards banquet to be held in Washington, D. C., on May 10 and 11.

Coming Soon: Smoke-Free Work Environment

A new smoking policy will go into effect on July 1, 1989. The policy affects Space Systems, Convair, and DSD-Western Center employees and facilities.

The policy released this week states that smoking will be prohibited in conference rooms, office areas (including private offices), classrooms, stairwells, hallways, dining facilities, restrooms, and laboratories. Smoking will be permitted *only* in outside areas that are not in violation of fire regulations and in the open high-bay areas of the factory (again, with the exception of lunch and break areas, and confined areas within these high-bay areas).

According to Bernie Kulchin, vice president of Human Resources, "the policy was created in direct response to employee concerns. This is also part of a continuing effort to promote a healthy work environment for all employees of Space Systems Division."

The effective date for this policy affords the smoker an opportunity to participate in a smoking cessation program. CRA has teamed with Scripps Clinic to offer a comprehensive smoking cessation program entitled, "Smoke No More." The first phase of the program meets twice a week for one month from 6 to 8:30 p.m. The second phase consists of follow-up sessions designed to help the participant remain smoke free. In this

phase, participants reconvene once a month for three months.

General Dynamics will pay 50% of the \$125 fee. New sessions begin every month. To register, contact the CRA Health-Fitness Center at 39921 for more details.



NO SMOKING

Lending Degrees of Support — In Support of Degrees

Completing a college degree while working full time is a challenge. Over 300 Space Systems employees have chosen that challenge for themselves and are currently enrolled in the Tuition Reimbursement program.

The company-sponsored program is administered by the Training & Development department.

According to Bernie Kulchin, vice president of Human Resources, "We encourage employees to continue their education in order to further develop their personal qualifications and capabilities to advance their careers and benefit the company."

Employees who meet grade requirements are reimbursed for tuition, registration fees, and laboratory-approved courses to assist them in attaining their educational goals. Courses must be acceptable for college or graduate-level credit and must be offered by an accredited college or university recognized by one of the six regional accrediting associations. Tuition reimbursement is subject to federal income tax regulations.

To enroll in the program, an employee completes a Tuition Refund Request (form SSD 4021) and submits it to his or her immediate supervisor prior to the start of the course(s). The supervisor needs to approve the request and certify

that the course(s) are related to the field in which the employee is currently working or may be reasonably expected to work.

From that point, it's a matter of gaining concurrence from Training & Development, processing the paperwork, and attending classes.

Nine employees graduated last fall or this spring through the SSD Tuition Reimbursement program: Norm Bobczynski, M.S. in Systems Management from University of Southern California Extension at VAFB; Susan Crockett, M.S. in High Technology Management (with distinction) from National University; Bob DeLibertis, A.A. in Business from Allan Hancock College; Alan Eft, M.S. in Logistics from National University; Gwen Freeman, B.S. in Business Administration from National University; Rita Jackson, M.S. in Human Resources Management from Florida Institute of Technology; K. Blaine Sample, Masters in Business Administration (cum laude) from National University; Bunny Snider, B.S. in Business Administration (cum laude) from San Diego State University; and Corina Trevino, A.A. in Human Resources (magna cum laude) from National University.

Congratulations to each of these people for meeting their challenge.

Employees Ask: *Is the EAP Confidential?*

One of the goals of the EAP is to ensure employee trust of the program and open communication. One of the most commonly asked questions is, "If the EAP is completely confidential, can information ever be released?"

If an employee enters the EAP voluntarily, and not due to any outside factors (e.g., positive drug or alcohol tests, or supervisor referral), the only time information could be released is under the following conditions:

- The employee authorizes release
- In response to a judicial subpoena
- If a lawsuit is brought against General Dynamics by the employee around a subject that was discussed in the EAP
- The employee presents, in the counselor's opinion, a physical danger to self or others (report required by state law)
- Child abuse and neglect is suspected (report required by state law)
- When a clear and present threat to General Dynamics security policies is evident.

You are required to sign a release of information to receive treatment through the EAP. The release states that you understand the conditions under which information will be released. Even if any of the above conditions did occur, GD may not be the organization contacted, depending on the violation.

Our goal within the EAP is to provide confidential services to all employees at the time they need assistance. The purpose is to provide employees an avenue to resolve their problems in a private and voluntary fashion. Questions can be referred to SP 22-814 or to the EAP administrator at 68880.



Graduates from the Space Systems Tuition Reimbursement program: from left are Alan Eft, K. Blaine Sample, Bunny Snider, Susan Crockett, and Corina Trevino. Not pictured are Rita Jackson, Bob DeLibertis, Norm Bobczynski, and Gwen Freeman.

Employee Assistance Program

San Diego. 291-0330

Toll Free. 1 (800) 999-7222

Patent Granted for Work in Simulating the Sun's Light Spectrum

Ted Stern, Mickey Cornwall, and Don Nirschl (pictured from left) developed a "Solar Simulator Employing Flexible Optics." These members of Research & Engineering received a patent from the U.S. Patent Office recently.



Simulating a portion of the sun's light spectrum can be used in many applications to illuminate a test specimen. Disadvantages of existing solar simulators have been the high cost of fabrication because of special lens requirements, the difficulty in initial alignment, difficulty in maintaining lens position, and less than 5% efficiency.

This invention overcomes many of those disadvantages. Costs are reduced because there are no mirrors or lenses. Alignment requirements are eliminated. The use of flexible optics means efficiency over 13%.

Mickey, Ted, and Don have had many patent applications filed while working at General Dynamics. Each received another monetary award for the granted patent.

Protecting Classified Information

When dealing with General Dynamics Proprietary Information (GDPI) on the Electronic Mail and Office Systems (EM/OS), please remember to follow these guidelines:

- Absolutely no government classified information may be entered into EM/OS.
- Always weigh the benefits of quick transmission via EM/OS against the possibility that the data may be compromised.
- Always designate your message as GDPI by putting the letters "GDPI" as the first characters in the subject line of the message.
- Put the words "General Dynamics Private Information" at the top and bottom of each page of the message or document.
- Pick up GDPI **immediately** from a system printer. GDPI **must not** be left unattended at system printers!

Please remember that GDPI is need-to-know data and must be protected accordingly. If you have any questions about GDPI on EM/OS, call the EM/OS Hotline at x75550.

Promotions

Congratulations to these people who received promotions during March. That includes all hourly, salaried, and management support employees who have moved up in their classification or who have accepted new positions which include a higher labor grade.

Charles Abbate
Damian Campos
Donna Charity
James Cardot
Diana Carter
Ian Collins
Joe Dacong, Sr.
Bassam Dahdough
Rosario Daz
William Eggert
Robert Eidson
Richard Flowerree
Evelyn Fowler
Teresa Fuentes
Michael Garoutte
Jeffrey Grady
Mike Gusha
Debbie Haltermann
Philip Jeter
John Karas
Gary Lee
Patrick Macken
Sergio Martinez

Santos Medellin
Thomas Merrill
John Metcalf
Charles Moss
John Nordstrom
Jack O'Boyle, Jr.
Michael Phillipp
Rebecca Redmon
John Rios
Bernard Robison
Nancy Rodriguez
Cezanne Ryan
Daniel Schwartzott
Michael Schweitzer
Marthe Smith
Mark Tarvin
Tanya Van Boxtel
Fred Valdez
Becky Vincent
Larry Vincent
Duane Williams
Margaret Zajdel

Space Briefs

Bee-bop to the **Spring Sock-Hop** on April 21. Tickets are still available.

See your NMA booster soon. . . .

Debbie Faulk was selected as the Employee of the First Quarter for Material. . . . Congratulations to **Dr. Roberta Baade** who has accepted a position as corporate director of Human Resources Development in St. Louis. . . . WalkAmerica activities are also gearing up at **Cape Canaveral AFS** for later on this month. . . . **Jim Engel** was honored as the Quality Assurance Employee of the Month for February. . . . **Cape Canaveral NMA** will hold their annual joint chapter Santa Maria barbeque on April 20. . . . **Secretaries Week** is scheduled for the last week in April. Look for more info in the next *Orbiter*. . . . Total employment for Space Systems for the week ending March 31 was 4,359.

Did You Know. . .

That the cost of sending a FAX message is approximately \$.06 per page plus the cost of the call itself.

The average cost of sending mail via Federal Express is \$6.50.

Safety on Our Minds

by Bill DeGarmo, Safety & Health Manager

"We care about your safety" is more than just a phrase at Space Systems. If you know of an unsafe condition, report it to your supervisor before someone is injured. Your ideas are welcomed and encouraged. In addition, you may submit your safety ideas to the Employee Suggestion program for a possible award. The suggestion will be evaluated as to its feasibility prior to approval.

In 1988, 68 employee suggestions regarding safety were approved and implemented. The benefits were twofold. First, each employee received a minimum of \$50 for the implemented ideas through the Employee Suggestion program. Second, a hazard which could have caused an injury was eliminated.

More on WalkAmerica

Plans for the 1989 annual March of Dimes WalkAmerica are well under way. The walk is scheduled for Saturday, April 29, with check-in between 7-10 a.m.

Walkers are now obtaining sponsors to raise monies for the March of Dimes cause. If you are interested in the walk, contact one of these team leaders to obtain a sponsor sheet. Other questions should be directed to Julie Greco at 66572.

Jackie Barrington	KM26	75450
Dave Boggy	CP4	77178
Jane Duby	KM26	75974
Trish Fuhlendorf	DC	67251
Debbie Haltermann	CP2	78459
Janet Lacefield	VP2	68787
Nancy Morris	KM26	38156
Coralynn Nutter	BB	68808
Rebecca Redmon	KM26	38694
Lori Rose	KM25	66722
Jane Schauer	CP2	77247
Jackie Sheinbein	CP2	78030
Cece Simon	CP4	78038
Janet Watson	KM26	39242
Gordon Williams	CP4	77127

To ensure that you'll get a T-shirt, send your preregistration card into a team leader as soon as you decide to walk.



The purpose of Space Systems Division *Orbiteer* is to report the way employees — like Dolores Johnson, Material analyst — work together, to show the superior products they produce, and to share newsworthy information.

Dee has held positions as a payroll specialist, accounting technician, accountant, and most recently, a material analyst. Dee is particularly pleased with the role she plays in selecting and buying the material used as standard hardware. "If an Atlas is launched," she says, "I take great pride in knowing I had a part in it." Dee's friends know her as very friendly and always willing to help.

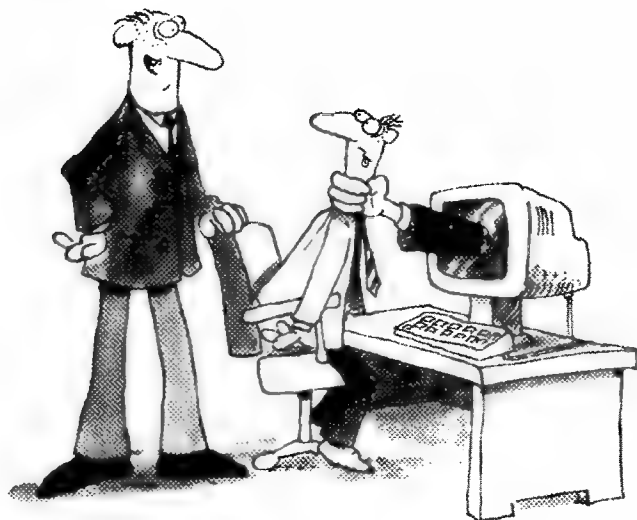
Last summer, Dee and her two daughters, Cheryl, 13, and Cloris, 8, went on a vacation, traveling most of the North American continent. One of Dee's next goals is to visit Europe.

Dee's older daughter was recently in the Martin Luther King Day Parade in downtown San Diego. Cheryl was a runner-up in the Miss Summer Miss pageant. Cloris is competing in regional gymnastic competition.

Dee is a graduate of John Robert Powers modeling school in San Diego. Her interests include music (jazz and blues), disco dancing, shopping for clothes, and being a connoisseur of fine foods. She often serves as a hostess at the Old Globe, Marquis, and Lyceum theatres.

—Bill Walker, SDSU Intern

Farcus



© Farcus Cartoons, 1987.

It's our new computer security system!

Space Systems Division *Orbiteer* is published every other Friday. Items of interest to readers should be addressed to *Orbiteer*, Mail Zone V2-7145 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 576-5705.

Reporters

Rita Jackson, Cape Canaveral 853-7255
Ruth Cameron, Vandenberg 866-1709
Camille Kahlert, Huntsville 880-0660
Linda Loffredo, Editor

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

May 5, 1989

Pace Signs Intelsat Contract

Atlas IIAS to Launch Two Intelsat VII Spacecraft

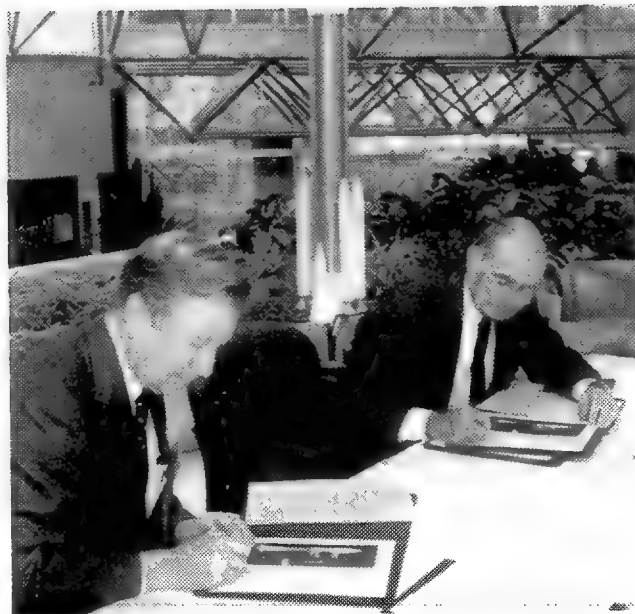
General Dynamics and Intelsat (International Telecommunications Satellite Organization) officials formally signed a contract on April 21 for the launch of two Intelsat VII spacecraft on Atlas IIAS launch vehicles. The contract also includes options for additional launches.

General Dynamics Chairman and Chief Executive Officer Stanley C. Pace, Space Systems Division General Manager Dr. Alan M. Lovelace, and Intelsat Director General Dean Burch participated in the ceremony at the Intelsat World Headquarters in Washington, D. C.

Atlas IIAS, the newest member of the Atlas family of launch vehicles, will launch Intelsat's next-generation communications spacecraft in 1993 from Cape Canaveral Air Force Station's launch complex 36B.

The General Dynamics Atlas has launched 24 Intelsat spacecraft over the past 15 years. The contract signed on April 21 marked the 20th anniversary of Intelsat's first order with General Dynamics.

Intelsat is the predominate provider of transoceanic telephone and television services via its 14-satellite global system.



General Dynamics Chairman and Chief Executive Officer Stanley C. Pace (left) and Intelsat Director General Dean Burch sign contract for two launches for Intelsat VII spacecraft on Atlas IIAS.

Emigrant Trail: The Story of a Highway to Mars

Two years in the making, "Emigrant Trail" is the story of the first commercial voyage to the planet Mars.

The story examines the infrastructure needed to support life in the vacuum of space, on the surface of the Moon and in the hostile atmosphere of Mars. It also provides a glimpse into the lives of many different people destined to populate the initial settlements on these planetary outposts. You will share their dreams and aspirations as they labor to tame their alien environments.

Based on historical perceptions first raised in 1937 about the state of air travel fifty years in the future, the story presents a possible view of life in space in the year 2037. This snapshot of space travel is based on long-range planning now being developed within NASA.

This special publication was created as an educational and informational journal, to stimulate interest and dialog on the subject of interplanetary flight and space exploration and to examine the infrastructure required to attain that goal.

"The Emigrant Trail" was created by Space Systems Business Development. Michael H. Smith wrote the original manuscript and contributed the bulk of the illustrations.

Complimentary Copies Available

Space Systems employees can request their complimentary copy of "The Emigrant Trail" through their supervisor beginning May 10. Additional copies can be purchased at \$4.90 per copy, plus \$1.50 if shipping is required. Make the check out to General Dynamics. Send your request and check to: Emigrant Trail, Mail Zone V2-7092.

Celebrity Social Hour at the Abbey

The second annual Celebrity Social Hour will be held in Gabriel's Grille at the Abbey Restaurant (5th & Olive) on Wednesday, May 17, 5:30 to 7:30 p.m.

NMA is sponsoring the charity benefit for the Make-A-Wish Foundation's program of granting wishes to terminally ill children. All tips and a percentage of the bar proceeds will be donated to the charity.

Celebrity bartenders include Dr. Alan Lovelace, Roy Bennett, Jeff Irons, Aida Jorgenson, Bernie Kulchin, Charlie Lloyd, Dan Little, Bob Martin, Kathy Milhaud, Don Moore, Jim Muir, Dave Parsons, Russ Thomas, and Joe Alcalá.



Employees from Test Operations and Labs (Test Operations Support) at Sycamore Canyon meet first milestone in safety program.

100-Day Safety Milestone Met

The Test Operations and Labs/ Test Operations Support department at Sycamore Canyon celebrated on April 14 100 days without a lost-time accident.

The Safety & Health department has implemented this program to involve employees in the safety and health process, thus preventing employee injuries. Each department that reaches the 100-day milestone is rewarded with a recognition ceremony. Signs have been posted in the departments to keep track of their progress.

"On-the-job safety is everyone's responsibility," said Bill DeGarmo, manager of Safety & Health. "We're very pleased with this performance and extend our congratulations to all employees." DeGarmo cited the results of the overall safety performance by employees as a major step forward in the company's

efforts to establish an accident-free work environment. The next goal is 500 days without a lost-time accident.

Other departments that have reached 100 days without a lost-time accident include: New Construction & Maintenance, Custodial, Failure Analysis, Tool Manufacturing, Kearny Mesa Quality Verification, Air Force Plant 19 Quality Verification, Radiographic Inspection, Nonmetal Assembly, Weld and Subassembly, Final Assembly, Tool Services, Mockup, Materials and Process Engineering, and Avionics Development Laboratories.

Pinecrest Park Open for the Season



Pinecrest is a lovely park located three miles outside of Julian for all General Dynamics employees. 89 acres are open to trailers, trailer rentals, camping (motorhomes, vans, campers, trailers, and tents). Guests can enjoy the olympic size swimming pool, volleyball, playground, horseshoes, hiking, etc. Rates are: rental trailers \$15 per night, camping \$5 per night, and picnicking \$2 per day for an entire carload of people. Reservations can be made by calling 765-0464. Ask for Stan or Dian Cornette at Pinecrest.

DSD Offers After-Hours Computer Courses

Data Systems Division is offering employees evening computer courses. This allows those people who cannot attend these courses during normal business hours an opportunity to learn computer skills.

Check with your training coordinator for enrollment procedures. Courses being offered from 4:45 to 7:45 p.m. include:

- Microsoft Word 3.0, Macintosh May 8, 9, 10
- Microcomputer Usage & Applications, MS/PC DOS May 16, 17, 18
- Macintosh Usage & Applications June 13, 14, 15, 20, 21



Ground Breaking Ceremony Dedicates New Plant Services Building. Facility Services will soon have a new 13,500-square-foot building which will house maintenance and construction personnel to support the operations of Kearny Mesa and Air Force Plant 19 equipment and facilities. The proposed building site is in the east yard of the Kearny Mesa plant. Pictured above at the April 14 ground breaking ceremony are (from left) Mike Gass, director of Facilities Services; Roy Johnson, a 38-year member of Facilities retiring at the end of April; Dean Dunphy, president of Dunphy Construction, and Dick Hora, vice president of Planning and Resource Management.

5/5/89

ADP Diskette Passes

Effective May 1, Information Resource Management (IRM) will be responsible for issuing unclassified Automated Data Processing (ADP) diskette passes. These passes are intended to allow for the unrestricted flow of ADP diskettes between Space Systems facilities.

IRM is located at Viewpoint Plaza 2, second floor. Questions can be directed to Curt James at 65275 or Tom Georgi at 66644, Mail Zone V2-7153.

Employees Study Time Card Error Rate

submitted by the SPC Action Team

Keeping time cards current is the number one problem found during routine floor check audits at Space Systems.

A Statistical Process Control (SPC) action team has been established to address the time card error rate issue. Employees from several functional departments make up the SPC team.

Our SPC team is addressing the problem by using statistical tools and team participation. During the week of May 8, special posters will be placed at all Space Systems buildings in an effort to solicit everyone's comments and suggestions. These "cause and effect" diagrams will allow employees to write in their comments.

Your participation in this project is welcome. Our goal is to get the time card error rate to 5% or less. If you have any questions, please call 68700.

Utility Bills Skyrocket

Utility costs and consumption for the first quarter of this year have increased over 1988 at all plants. Overall electrical consumption is up 8.5%, with Kearny Mesa leading with a 21% increase over last year.

Since lighting accounts for more than half of our electric bill, everyone can have an effect on our energy bill by turning off lights during lunch periods; when natural light is adequate; when conventional machinery is not in use; in conference rooms or office areas when not in use; or at the end of a shift.

Titan/Centaur Mockup Relocation



Members of the Titan/Centaur Mockup team, front row, from left: Ben Go, Mike Nadeau, Carl Luckner. Back row, from left: Julius Davis, Dick Gebel, Harvey Ennis, Rick Linehan, Gery Seifert, Paul Dinsmoor, and Willie Williams.



The Titan/Centaur Mockup team achieved another major milestone last month. The high fidelity tank/aft bulkhead mockup was relocated in Kearny Mesa building 5 to a new holding fixture which is vertically oriented. This is the first time that General Dynamics has ever had a vertically oriented, high fidelity mockup of the Centaur tank and aft bulkhead. The mockup will support critical forward and aft umbilical/ door accessibility demonstrations with Cape Canaveral AFS personnel this summer.

Telephone Directory Assistance Now on-line Via EM/OS

The telephone directory for Space Systems, Convair, and Data Systems is now available online via EM/OS. This is the up-to-the-second version of the telephone directory which is used by the switchboard operators. This is also the same database that is used to generate the telephone directory every six months.

To access the feature, type PHONE-BOOK at any EM/OS command prompt. Employee names are in the same format as EM/OS user names (last name, first name, and middle initial). If you don't know the person's last name and initials, enter the last name and press Gold/L. If you wish to search for listings containing a particular string, enter the string and type Gold/S. Emergency phone numbers all begin with EMERGENCY and all gate listings begin with GATE.

Questions can be referred to the EM/OS Help Line at 75550.

Space Briefs

Congratulations to Tim Gladfelter, selected as the March Employee of the Month for Quality Assurance. . . . The Vandenberg NMA chapter elected new officers for 1989: **Mark Beck**, president; **Ruth Cameron**, vice president; **Terrie Hamen**, secretary; and **Jack Hamner**, treasurer. . . . The film, *Friendship 7*, will be shown on May 17 in the RTDS Conference Room, KM 26. . . . Sunday, May 21, is the date set for the **3-Mile Fun Run/Walk and Kids' Junior Challenge** at CRA Missile Park. Call the CRA Health-Fitness Center race director at 39921. . . . **Dr. Bruce Cordell** will be speaking on the topic "Human Future in Space" on May 9 at the Sweetwater Union High School Districts lecture series in the gifted and talented education program. . . . The **Convair Sign Shop** is temporarily closed to production of signs. Call Ed Hemphill at 74947 for emergency service. . . . **Employment** for Space Systems for the week ending April 28 was 4,393.

Employee Art Contest



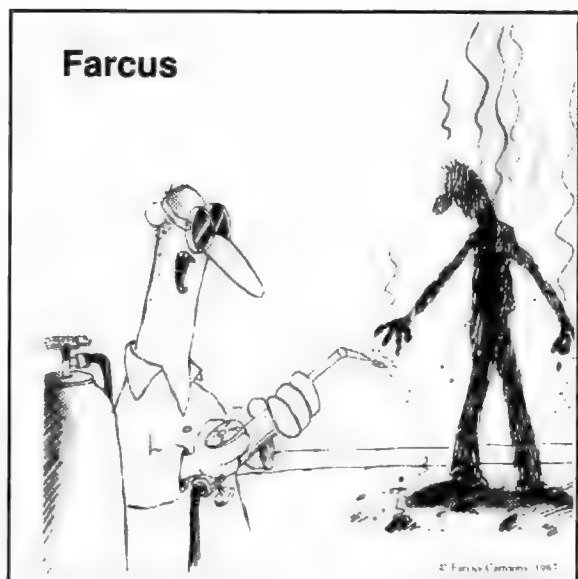
All Space Systems employees are eligible for the holiday greeting card art contest. Artwork submitted should center around our product line in a holiday setting.

The first prize is \$100 cash and a framed Atlas lithograph. The three runners-up will receive a framed lithograph. Entry deadline is May 26. The selection committee will make their decision by June 16. Submit your artwork to Ed Herring at C2-7920 (phone 78170) or Jill Stahl at DC-8940.

Parenting Workshop

CRA will host a series of parenting workshops. Held in conjunction with Charter Hospital and Counseling Centers, these classes are geared toward parents who want to improve their parenting skills, learn techniques to deal with a problem child, or improve communication. Topics to be covered include effective parenting, positive parenting, teen alcohol and drug abuse, and single parenting.

The workshop will be held May 23 and 25. Cost for both nights is \$5. Classes will be held in the CRA clubhouse from 4:45 to 6:45 p.m. Call 39921 or send your check, made out to CRA-HFC, to Mail Zone 50-1319.



Never mind. Now it's working.

Ecology Club Started Recycling to Be Done Year-Round for Charity

Spurred on by February's successful Cans for Critters campaign, employees from Space Systems and Convair are forming a new CRA club to address conservation and environmental issues. According to Vince Ruddy, "the Ecology Club is for people who care about the environment, who respect nature, and want to eliminate wasteful habits by promoting efficiency and conservation instead."

The group has set as one of its first objectives the initiation of a year-round recycling program at General Dynamics San Diego facilities. The Ecology Club will be donating the proceeds of the efforts to various charitable and non-profit organizations.

Grant Williams, another club member, believes the time is right for the company to be a leader in efforts to promote conservation and concern for the environment. "If we can raise \$1,500 in just one month from the cans that people usually throw away, then why not do it year-round? At the very least, we could raise \$18,000 per year, money that can go back into the environment through the organizations we support."

Members of the Ecology Club are anxious to get other people involved.

They are looking for volunteers who will take responsibility for specific areas at each of the San Diego facilities. These people will make sure that aluminum cans in their area are collected and periodically taken to the central collection bins. To learn more about how you can get involved, call Vince Ruddy at 78674, Jim England at 78119, or Grant Williams at 77232.

Start saving those aluminum cans again!



The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Fred Ramirez, mechanical engineer — work together, to show the superior products they produce, and to share newsworthy information.

As a member of the San Diego Chess Club, Fred is involved with Scholastic Chess, a program designed to reach out to the local schools and inspire young kids to play chess. Last fall, he started a chess club at Gaspar de Portola Middle School in Tierrasanta, where he donated his time and four chess sets, and conducted a simultaneous tournament — winning all his games.

Fred also coordinated a successful General Dynamics versus General Atomic chess tournament, toppling the GA team by 13 1/2 to 11 1/2. TV channels 10 and 39 covered the event.

But his stardom doesn't stop there. Fred is getting ready to be in the Hollywood production of the film, "The Hunt for Red October," based on a book by Tom Clancey. Paramount Films selected naval personnel as a courtesy to the Navy and as experts in submarine life. Since Fred had served in the Navy for five years and is a member of the Naval Reserves, he was invited to the audition and later selected.

Fred works in Mechanical & Fluid Systems Development, and is involved with the Atlas programs. He looks at the whole system as it is readied for launch and prepares operational documents and contingency plans.

Space Systems Division *Orbiter* is published every other Friday. Items of interest to readers should be addressed to *Orbiter*, Mail Zone V2-7145 (Post Office Box 85990, San Diego, CA 92138.) Telephone (619) 576-5705.

Rita Jackson, CCAFS 853-5885

Ruth Cameron, VAFB 866-1709

Camille Kahlert, Huntsville 880-0660

Linda Loffredo, Editor

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

May 19, 1989

Dr. Lovelace Honored with Goddard Astronautics Award

The American Institute of Aeronautics and Astronautics (AIAA) presented Dr. Alan Lovelace with the Goddard Astronautics Award at their annual meeting and international aerospace exhibit on May 4 in Arlington, Virginia.

The Goddard Astronautics Award is the highest award AIAA can bestow to honor the most notable achievements in the entire field of astronautics. The award is named after Robert H. Goddard, pioneer, bold experimentalist, and superb engineer whose liquid rocket engine launches opened up the world of astronautics.

The 1989 Goddard Astronautics Award was presented to Dr. Lovelace for "For his outstanding contributions to the field of aerospace technology, and, in particular, for leadership in government and industry in helping the United States achieve assured access to space through government and commercial launch services."

Notable recipients of the prestigious award include Theodore von Karman (1960), Wernher von Braun (1961), Robert Gilruth (1962), James Martin, Jr. (1977), Maxime Faget (1979), John Yardley (1982), Krafft Ehrlicke (1984), John L. McLucas (1987), and Norman Augustine (1988).

The award consists of a medal, certificate of citation, and a rosette pin.

Dr. Lovelace has been with General Dynamics since 1981, when he joined as the vice president of Science and Engineering. His distinguished career includes seven years with the National Aeronautics and Space Administration. Named by President Ford to serve as deputy administrator in 1976, he later served as acting administrator of NASA.

Since entering federal service with the U.S. Air Force in 1954, he has held many research management positions.



William F. Ballhous, Jr., (pictured on right) president of AIAA and director of NASA-Ames Research Center, presents Dr. Alan Lovelace, vice president and general manager of Space Systems, with the 1989 Goddard Astronautics Award.

General Dynamics Sets Strategic Objectives for Corporation

In light of today's constantly changing and increasingly competitive business environment, General Dynamics Corporation has established strategic goals for ensuring success in the 1990s. As stated by Herb Rogers, president of General Dynamics, "The next decade holds a number of important challenges for our corporation and the defense industry as a whole. We are entering a period of transition which will be marked by declining defense budgets, arms control initiatives, greater synergism between commercial and military technology, and greater U.S. defense capacity than projected demand."

These trends will impact, to some extent, all divisions within General Dynamics. Space Systems, however, has been targeted by the corporation as an area of potential growth throughout the next decade. The increasing emphasis being placed on space-based activities is expected to provide continued expansion in the space transportation marketplace well into the 1990s.

In the first step of the strategic planning process for 1989, General Dynamics has published the strategic objectives outlined below. The objectives provide guidance for developing strategic objectives at each division, which in turn establish the foundation for the division's Strategic Plan and Operating Plan.

General Dynamics Strategic Objectives

- Growth in sales and earnings
- Diversify within the defense business through new product lines and programs
- Develop critical new technologies for next-generation systems
- Improve quality and cost reduction performance, including implementation of a Total Quality Management program
- Increase international business



Salvation Army Receives \$1,000 from General Dynamics. Recipients of the General Dynamics Community Service Award, Connie Zuniga (far left) and Nanc Anderson-Metz, presented Major Richard Love from the Salvation Army with a \$1,000 check. The corporate program recognizes employees at every division who perform volunteer charity work. General Dynamics contributes the money to the organization for which award recipients volunteer their time.

Did You Know...

The average cost of relocating a telephone or data circuit is \$54.

The cost of moving one person is approximately \$100.

Speakers Bureau Open

by Julie Leon, Community Relations

Space Systems has formed a Speakers Bureau to meet community needs and requests, as well as to promote goodwill.

As various civic organizations, businesses, clubs, and schools contact us to request speaker(s) for their program, we will be able to draw on a large pool of engineers, scientists, and administrators. We're looking for speakers to address topics such as space technology, energy systems, management, business, human relations, education, and industrial security. If you are interested in being a speaker, please call Julie at 39381.

Hugo Van Den Bergh Receives U.S. Patent

Hugo Van Den Bergh received a patent granted by the U.S. Patent Office. He is an engineering specialist working on energy programs, specifically the Superconducting Magnet Energy Storage program at our Harbor Drive facilities.

The purpose of his invention, "Automatic Fluid Flow Regulator," is to automatically adjust the flow of fluid in piping systems without the use of sensors, springs, or valves.

In fluid distribution systems, it is often necessary to split the flow of a fluid into two branches, with the flow maintained in a predetermined ratio.

If it is difficult in existing cryogenic systems to determine if both branches receive sufficient coolant during cooldown. This invention ensures that sufficient coolant is received by both branches.

Novel features include the use of a specially designed spool device which eliminates the use of sensors, springs, and valves.

Hugo also received a monetary award from General Dynamics' Legal Office for the patent being granted.

Quality Assurance Starts New Inquiry System

Quality Assurance implemented a new inquiry system in April called the Friendly Quality Assurance Report (QAR) System. Employees can use the new system to inquire about hardware discrepancy data reported on QARs, Quality completion orders, supplier action requests, and waiver approval requests.

This replaces the old IMS QAR database inquiry transaction, SDQIN. The Time Sharing Option/DB2 system, which has been in operation since November 1988, will be used along with the new system. The new systems will provide users with enhanced query capabilities along with a new user interface.

The QA Information Systems group has been providing hands-on training and user guides for those interested and would like to extend its services in assisting users with the on-line operation or printing capabilities of the Friendly QAR system. Please call Anne-Renee Foiles at 74541 for assistance.



Nearly 80 college hires attended the "Getting the Big Picture" half-day program sponsored by College Relations. The program acquaints college hires with the programs and functional activities at Space Systems. A reception at CRA Missile Park concluded the day's events. Visiting with the recently hired employees is Don Moore (seated on right), vice president of Quality Assurance. Also seated are Matthew Stassi and Judy Birch. Standing from left are: Jackie Newstadt - Human Resources rep, Stanya Brandon, Mohan Kuppasamy, Chris Montgomery, and Gary McCulley.

5/19/89



From left are Bill Cole - Electronics Division Engineering manager, Tom Sammon - Convair Division Engineering director, Darrell Adler, Sarah Stockwell, Marty Winkler - vice president of Research & Engineering, Dick Bethel, and Dr. Bruce Cordell.

Students' Earn Awards for their Science Fair Exhibits

Darrell Adler and Sarah Stockwell were the recipients of \$350 General Dynamics awards for their exhibits at the 35th Annual Greater San Diego Science and Engineering Fair held at Balboa Park in April.

Competition was stiff, with 704 science exhibits on display. These had been screened from junior and senior high school projects from San Diego and Imperial counties. The fair established a junior and senior division for the life sciences and the physical sciences which included 13 categories.

Judges of the exhibits included Dr. Bruce Cordell, Dr. Michael Felix, and Larry Lutsky, all members of Space Systems Advanced Programs.

Darrell's winning project was entitled, "Comparing Rocket Engine Thrust Using a Pressure Transducer and Computer."

Sarah's winning project was entitled, "Line Vortex Interactions in Potential Flow."

The 1989 General Dynamics awards were sponsored by Space Systems NMA Chapter, also representing Convair and Electronics Divisions.

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Donald Beight, Configuration Management Specialist, Engineering Administration, 37 years
Albert Ender, Engineering Specialist, Avionics, 19 years
Jerry Greenstein, Engineering Specialist Senior, Avionics, 34 years
John Mazza, Manager of Human Resources, Cape Canaveral Air Force Station, 28 years
Estelle Pfeffer, Program Control Specialist, Master Scheduling, 29 years
Arthur Poirier, Engineering Specialist Analyst, Systems Engineering, 4 years

Space Briefs

Preliminary results show 751 people walked for the GD team at the **March of Dimes WalkAmerica**, with pledges coming to \$52,172. . . . Changes to your **Savings and Stock Investment Plan** for the second half of this year need to be made by May 31 at the Employee Benefits Office. . . . The **Factory Checkout** group accepted a softball challenge from Convair Cruise Missile Flight Test, prevailing with a score of 30 to 2. . . . The Santa Maria Barbecue sponsored by NMA's Florida Space Coast Council attracted 1,240 guests. **Gene Gilmore** was the Space Systems chef. . . . The **Childcare Resource Center** is sponsoring a brown bag lunch presentation on "How to Select a Quality Pre-School for Your Child" on May 25. Two sessions are scheduled, 11 a.m. and noon, in KM 26 MIC Conference Room. . . . If you are interested in taking an after-hours **Gregg shorthand course** this fall, contact Susan Corrao at 39778 or by EM/OS. . . . **Material Operations** will be holding their second annual family picnic at CRA Missile Park on June 24. . . . The next **Secretarial and Management Support** brown bag lunch, a followup to Secretaries Week, will be held on May 31 in CP2 Titan/Centaur MIC room, 11:45 a.m. to 12:30 p.m. . . . The **Cape Canaveral Air Force Station** family picnic has been set for October 8. . . . Total employment for Space Systems for the week ending May 12 was ____.

Promotions

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Miguel Acosta	Gayle Frank	Stephen Klein	Pat Retoriano
Everett Appling	Rickie Friend	Ken Lejman	Monika Rhodes
Steven Avilez-Streh	Ron Garrett	Larry Lutsky	Richard Rico
Dennis Bartlett	Mike Gass	Yolanda Martain	Edward Rosa
Charles Bassett	Richard Gebel	Timothy McManus	Jon Saul
Ron Bibb	Bill Greenwood	Fred Merino	Kip Sawyer
Richard Braeutigam	James Grissom	Thomas Nordeck	Diana Schukar
Tom Callahan	Harold Hahn	Rudy Ortega	Stephen Seus
Myra Callen	Clifford Hall	Tom Paulson	Harold Smith
Ned Cross	Scott Hancher	Rick Pepin	Dave Van Auker
Raymond Doyle	Hal Hendrickson	James Peterson	Jeanne Vaz
Steve Eckberg	Mark Hibbard	Brad Pitzer	Bill Woodel
M. El Assis	James Holcombe	Richard Pollock	Phil Yip
Tammy Epps	Bill Isaacs	Gloria Potter	Rusty York
Linda Espy	Ted Johnston	Thomas Ramos	Doug Zink
Edward Ford	Ken Kimble	Carrie Reid	

Use of Company Resources

by Alda Jorgenson, Ethics Director

As employees, we may not make improper use of company or customer resources nor permit others to do so. Examples of improper use are unauthorized appropriation, possession, or personal use of company or customer assets, technology and patents, software, computers, communication and copying equipment, FAX machines, express mail, and office supplies.

The ability of General Dynamics Space Systems to meet the broad commitments to customers, suppliers, employees, shareholders, and communities depends on efficiently using company and customer resources. These resources include technology, data, buildings, land, equipment, cash, and the time and talent of employees.

Word Processing Service Open to Entire Division

The Information Resource Management Wang Word Processing Center is available for all Space Systems word processing work. Requestors need only supply a WAP number for charging purposes along with the word processing project. The center is located on the first floor of Century Park Three, column D1. Stop by, or call Mary Rameson at 77513, for more information.



Regulatory Affairs Council Hosts Visit of Assemblywoman Killea

by Michael T. Haro, Environmental Resources Management Program Manager

General Dynamics is committed to being responsive to the intent of environmental laws and regulations. To this end, the California Regulatory Affairs Coordinating Council was formed from five operating divisions, representing 28,000 employees.

The Council is dedicated to the study of environmental concerns and regulatory proposals, with special emphasis on understanding the details of their implementation. The Council seeks to achieve a balance between the needs of our communities in San Diego, Pomona and Rancho Cucamonga, and business competitiveness.

To this end, Space Systems, Convair, and Electronics hosted the visit on March 31 of Lucy Killea, 78th district member of the California State Assembly.

The half-day briefing and tour provided Assemblywoman Killea with a close look at our Environmental Resources Management program, including manufacturing operations, hazardous waste treatment, recycling, and waste minimization projects. Ms. Killea later stated, "it is quite evident that [General Dynamics] has made substantial progress in minimizing the amount of hazardous waste emitted and that they have set an example for others to follow by setting a zero discharge goal."

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Tom Edwards, Facilities field engineer — work together, to show the superior products they produce, and to share newsworthy information.

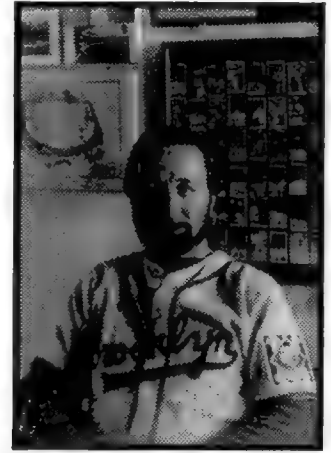
A hardcore baseball fan, Tom has had his sports writing and photography appear in several national baseball publications. Another piece of his work will be featured in next month's issue of "Trader Speaks" magazine. Tom has handled photography for Tony Gwynn, Tim Lincecum, and other Padres players. He says his most memorable work was with some of the big names like Joe DiMaggio, Mickey Mantle, and Yogi Berra. That's only the beginning of his interest in baseball — an entire room of his home is dedicated to baseball books for research, videos, baseball cards, paintings and posters, and other memorabilia. He even has two rows of chairs built in 1910 that are from the original New York Giants Polo Grounds.

Tom began his career with General Dynamics 12 years ago at Electric Boat. His wife, Cathy, is an artist at Electronics Division. A Vietnam veteran, Tom returned to the States in 1969 to obtain two degrees, one in sociology, the other in construction inspection.

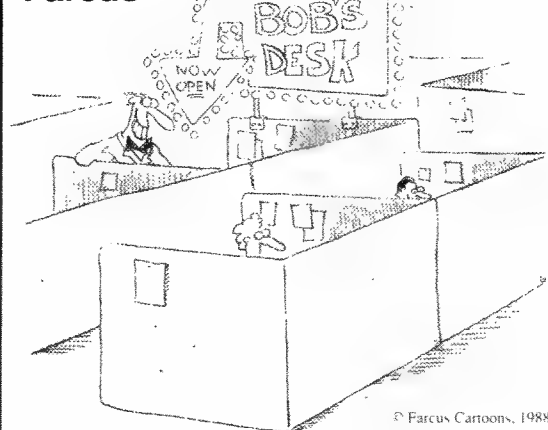
Tom oversees the Facility Service requirement for contracted service on equipment, machinery, building, and grounds. He also handles any breach of contract with secondary sources and is involved with the review of annual service contracts.

Space Systems Division *Orbiter* is published every other Friday. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000 (Post Office Box 85990). The new telephone number is (619) 573-9373.

Linda Loffredo, Editor



Farcus



Bob finally gets the recognition he deserves.

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

June 2, 1989

Procurement Integrity Training to Begin Soon

On November 17 of last year, the U.S. Congress passed a new law, "Office of Federal Procurement Policy Act Amendments of 1988," which affects *all salaried exempt employees*.

One section of this new law is aimed at eliminating the types of practices by both government and contractor personnel which were uncovered by Operation Ill Wind.

Specifically, Section 6 of the new law prohibits four major types of activities by both government and contractor personnel: 1) Making offers or promises of employment to a government procurement official involved in the same procurement action in which the contractor is involved; 2) Making offers or promises to offer money, gratuities, or other things of value to a procurement official involved in a specific acquisition; 3) Soliciting or obtaining unauthorized proprietary contractor information or any government source selection information related to an acquisition; and 4) Disseminating legally or illegally obtained proprietary or source selection information to anyone who is not specifically authorized by the government to receive that information.

We've established a training program designed to acquaint *all salaried exempt employees* with the new law. Every employee will be asked to certify that they are familiar with the new law, Federal Procurement Policy Act, and will comply with its requirements.

The government is requiring these certifications to be completed by July 16. The 30-45 minute training sessions will be conducted June 14 through 30. Training coordinators for each major function or program will be scheduling all salaried exempt employees into training sessions.

Commercial Atlas Selected for UHF Follow-on Negotiations

Commercial Launch Services was selected for contract negotiations by Hughes Aircraft Company, Space and Communications Group, to provide launch services for the Navy's UHF follow-on space communication program. The May 17 decision will result in immediate negotiations of launch services for up to ten satellites which are based upon Hughes' HS 601 spacecraft.

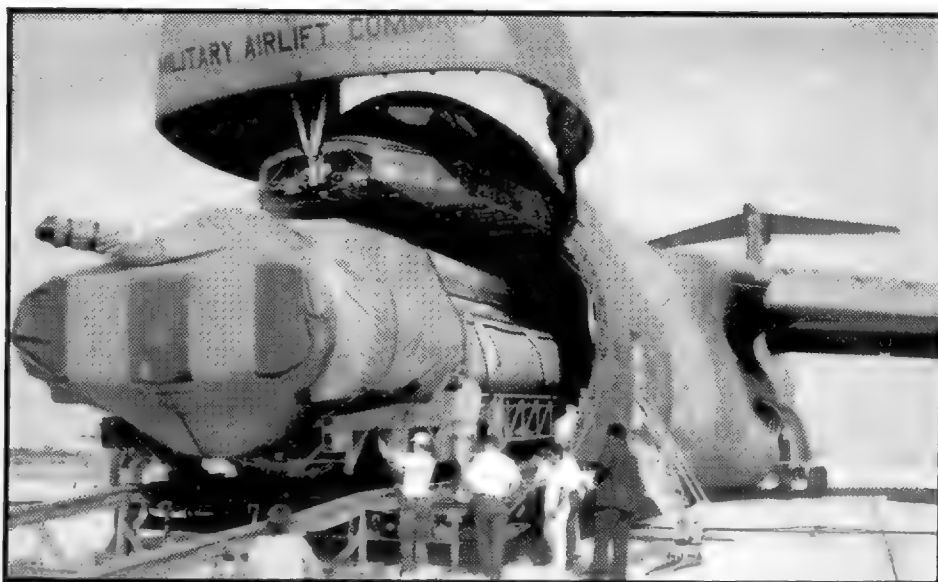
The first UHF launch is scheduled for mid-1992. Up to three launches per year are planned, with a final launch scheduled for the first quarter of 1997.

National Spaceweek Set for July 14-20

"One small step for man; one giant leap for mankind." These words were spoken 20 years ago as Neil Armstrong became the first man to set foot on the moon.

To commemorate the momentous occasion, the Reuben H. Fleet Space Theater and Science Center in Balboa Park will celebrate National Spaceweek with a variety of free lectures and events during the week of July 14-20. This year's theme is "Moonstruck — the Science and Romance of the Moon."

As more information is released, the *Orbiter* will provide details. For a complete schedule of events, call the Space Theater's education department at 238-1233, extension 208 or 247.



Atlas/Centaur 68 Being Loaded for Shipment to Cape Canaveral Air Force Station. Atlas 5047G and the newly fabricated Centaur were loaded onto a C-5A aircraft at Miramar Naval Air Station on May 23. Following delivery to Cape Canaveral Air Force Station, A/C 68 will be erected at the recently refurbished Complex 36B launch facility. Scheduled to launch in September, the A/C 68 mission is to place FLTSATCOM, a U.S. Navy communications satellite, into geosynchronous earth orbit.

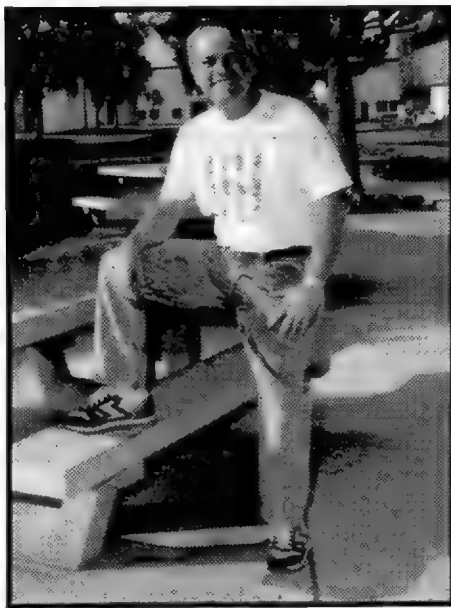
Brochures Distributed Regarding New Alcohol and Drug Abuse Policy

Brochures outlining Space Systems' new alcohol and drug abuse policy are being distributed to all employees. The brochure, "Alcohol and Drug Abuse Program Guide," summarizes the provisions of assistance and deterrents that represent key aspects of the policy.

Employees are encouraged to read the information to familiarize themselves with the scope of the policy. This includes confidential assistance and education, as well as possible drug screening for employees in certain job categories or those judged too impaired to safely perform their job.

If you have not received your copy of the new company policy brochure, call Mike Felchlin at 68880.

High Fundraiser, Mike Austin, Collects \$1800 for March of Dimes



Please help us reach our pledge goal of \$52,172 for General Dynamics. Collect pledges from your sponsors. Convert any cash into a check made out to the March of Dimes. Mail your pledges in the pre-addressed envelope you received at final checkout or to the address on the back of your sponsor sheet.

"Fit Kids" Summer Exercise Program

Fit Kids, an exercise program for kids 6 to 10, was created to instill positive lifestyle habits through exercise and education. The program includes pre- and post-fitness assessment tests, educational mini-lectures, fun activities, incentives, and social events.

The program runs from July 5 through August 25, on Monday, Wednesday, and Friday at 5:05 p.m. in CRA Missile Park. Cost for the class is \$35.

The class meets at the same time and location as the Shape-Up Adult Fitness program, providing a great opportunity for the entire family to exercise and instill healthy lifestyle habits.

Call the CRA Health-Fitness Center at 39921 to sign up or for more information.

First Engines Here for Titan/Centaur

Space Systems received the first four engines on May 22 for the Titan IV/Centaur program. The Pratt & Whitney RL10 engines will now undergo receiving inspection procedures prior to being fitted with GDSS interfacing hardware in preparation for installation on the Centaur vehicle. Since Centaur uses two engines per ship, the first four engines are slated for T/C-8 and T/C-9.

These are the first engines ever procured directly by General Dynamics for our launch vehicles. Previously, Pratt & Whitney was an associate contractor that built and sold RL10 engines to the government. GDSS then received the engines as government-furnished property and integrated them into the vehicle.

"Receipt of these engines represents another major milestone on the road to delivery of T/C-8," said Russ Thomas, vice president and director of the Titan/Centaur program. "It represents the culmination of a substantial effort by the Space Systems and Pratt & Whitney team."

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Dick Asker, engineering specialist, Structures & Mechanical Systems, 27 years

Jack Cummings, program financial administrator, Finance, 29 years

Dorsey Dean, engineer senior, Quality Assurance, Cape Canaveral Air Force Station, 17 years

Rod Hutchinson, engineering specialist, Test & Evaluation, 31 years

Roy Johnson, group leader, Planning, 37 years

Carl Leonard, engineering specialist senior, Avionics, 37 years

Harvey Maier, engineering specialist, Research & Engineering, 31 years

Bill Nader, program control specialist, Master Scheduling, 35 years

Richard Sanders, launch service mechanic senior, Cape Canaveral Air Force Station, 17 years

Clyde Wiley, engineering specialist, Systems Analysis, 3 years



From left are: Mike Adams, Landex Construction; James Muir; Louis Ramsey, president of Landex Construction; and Nina Ramsey. The speaker at the podium is George Chandler, SBA district director.

Landex Construction Named Small Business of the Year

The Small Business Development Center of the Greater San Diego Chamber of Commerce hosted the Annual Tribute to Small Business Awards Luncheon on May 5. The event, co-sponsored with the U.S. Small Business Administration, is San Diego's premier event to recognize the dynamic importance that small businesses play in our economy.

The focus of the luncheon program was to recognize the contributions that San Diego's 65,000 small businesses provide to our community. U.S. Senator Pete Wilson was the keynote speaker.

Immediately following the luncheon, a Special Awards Ceremony was held for prime contractors to present awards.

James Muir, manager of Procurement, presented Louis Ramzi, president of Landex Construction, with Space Systems "Small Business Subcontractor of the Year" award for 1988.

Landex is a small and minority-owned construction firm in San Diego. The company has proven to be a very responsive and reliable supplier to Space Systems and well deserving of the award.

Production Program Review Includes All Five Geographic Locations

Production of the Titan/Centaur and Atlas I & II vehicles is currently spread across five different geographic locations: San Diego Air Force Plant 19 and Kearny Mesa; General Dynamics Services Company, Harlingen, Texas; Vandenberg Air Force Base; and Cape Canaveral Air Force Station.

Monthly program reviews are held at each location. The purpose of the reviews is to ensure division support of all programmatic issues and production requirements, plus reviewing and evaluating the transition to production.

The May monthly reviews were consolidated and conducted in San Diego on May 16, thus becoming the first unified program review of its kind.

"Space Systems' success is directly dependent on the performance of each individual location. Likewise, each location's success is directly dependent on the performance of every other location," said Ed Squires, vice president of Production. "This first unified program review was very successful."

San Diego manufactures the Atlas Centaur tanks and welded assemblies at Air Force Plant 19. Centaur vehicle final assembly and checkout, plus assembly build-up and testing of both Atlas and Centaur major assemblies, is accomplished at Kearny Mesa.

General Dynamics Services Company in Harlingen, Texas, assembles major Atlas and Centaur structural components. These include Titan/Centaur forward and aft adapters and Atlas I & II thrust structures, fairings, interstage adapters, split barrels, stub adapters, and equipment modules.

GDSS/Vandenberg Air Force Base performs final assembly and checkout of the Atlas thrust structure and tanks received from Harlingen and San Diego, respectively. VAFB also fabricates all vehicle harnesses which are installed on the vehicle at VAFB and San Diego, plus major components installed at CCAFS.

GDSS/Cape Canaveral Air Force Station provides the very important launch services and integration for Titan/Centaur and launch services, and integration and launch of the Atlas I & II programs. The Cape facility also

manufactures precision machine detail parts used at all five geographic locations.

The unified program review provided the opportunity for participants from each geographic location to present their position and performance to production schedules. This exchange of information provided the status and expected availability of hardware for each location, thus facilitating successful planning of resources utilization. It also provided a division-wide communication link for identification and resolution of issues and concerns.

Most importantly, this unified review emphasized the importance of teamwork throughout and across all geographic locations.

Submitted by Bob Holcomb, director of Offsite Product Line and Titan/Centaur Product Line Manager, Production

Space Briefs

Congratulations to **Ann-Renee Foiles**, who was selected as the Quality Assurance Employee of the Month for April. . . . **Jerry Wilken**, senior Quality engineer, was elected chairman for the American Society for Quality Control. . . . You can now purchase **postage stamps** at the Space Systems Mail Room (KM 26, first floor) in increments of \$1.50. . . . **Luis Ojeda** and **Dick Martin** won trophies in their age category at the first annual GD-CRA Fun Run/Walk on May 21. . . . Newly-elected San Diego NMA officers are **Larry Foss**, president, **Ed Herring**, vice president, **Robbin Trent**, secretary, and **Sue Kopp**, treasurer. . . . **Kim Johnson**, **Leroy Gross**, and **Jim Matthews** were honored as the Community Service Award nominees for Cape Canaveral at a special breakfast at the Cocoa Beach Hilton on May 25. . . . **Jack Smothers** recently completed the Long Beach Marathon. . . . There were no winners in the contest to guess employment from the last issue. Space Systems **employment** for the week ending May 12 was 4,436 and for May 19, employment was 4,464.

Price Club Memberships Now Available

General Dynamics active employees may now join Price Club as a Gold Star member. Price Club membership allows you to purchase quality brand name merchandise at a substantial savings.

Beginning June 1, applications will be available at the CRA Clubhouse. Membership fees for a one-year single membership are \$25, and \$10 a year additional for a spouse. Stop by the CRA office or call 39918 for more information.

IRM Graphic Services Expands

The IRM Graphic Services department has expanded at Viewpoint Plaza Two. More area was needed to prepare for new equipment and for the new functions added to this department. Management Systems and Forms Management are now a part of Graphic Services.

All support for proposals, technical publications, brochures, forms, policies and procedures, must be funneled through Graphic Services. Work should not be taken to Convair Technical Publications or Art & Editorial. Please call the following numbers for assistance:

Graphics..... 68809, 68772
Editing..... 68849
Electronic Publishing.. 68830
Management Systems..... 68818, 66646
Forms Management..... 66749, 68826



Gil Armour took the lead in San Diego's WalkAmerica, crossing the finish line in an hour and forty minutes. An avid runner, he decided to "Run America" on the 15-mile course around Mission Bay Park. Gil is a lead engineer in Thermal Control, working on the National Aerospace Plane program.

Coming Soon: Community Relations Fair at CRA Park

General Dynamics employees are invited to the company's first annual community relations fair, "Reaching Out," on June 15 from 11:30 a.m. to 1 p.m., to be held at the bandstand area in CRA's Missile Park.

Hosted by the Electronics Division, "Reaching Out" will host volunteer coordinators from diverse, non-profit agencies. Employees can pick up information and find out how to get involved in community service.

Agencies planning to attend the fair include: American Cancer Society, American Red Cross, Neighborhood House Association, Crisis House, Association of Retarded Citizens, San Diego Urban League, Crash, Inc., San Diego Hospice, Social Advocates for Youth, and United Way.

Hi! My name is Barbara Lingenfelder — cashier at Vandenberg Air Force Base.



My family arrived here from Oregon in 1960. After settling the house in order and entering our two children into the local schools, I headed for town (Santa Maria) to look for a job. On the way, I passed an office with a General Dynamics employment sign. Apparently, I happened to be just what they were looking for as their cashier. So following a physical on Tuesday, I started work on Wednesday and have been here ever since.

At the time, our offices were housed in the old barracks buildings. There were 2,300 employees then, so cashing was a full time job. I was responsible for payroll, paying travel orders, additional advances, freight bills, and petty cash.

After a few years, we moved into our new building, which was MAB 5. Other jobs I've taken on over the years are short form purchase orders, auditing expense reports, and travel reservations. Later, I was also doing the balance of Accounts Payable, which consisted of auditing purchase orders paid by San Diego. Somewhere in that time frame, I became secretary of the Con-Trib Club and treasurer of the Vandenberg Recreation Fund.

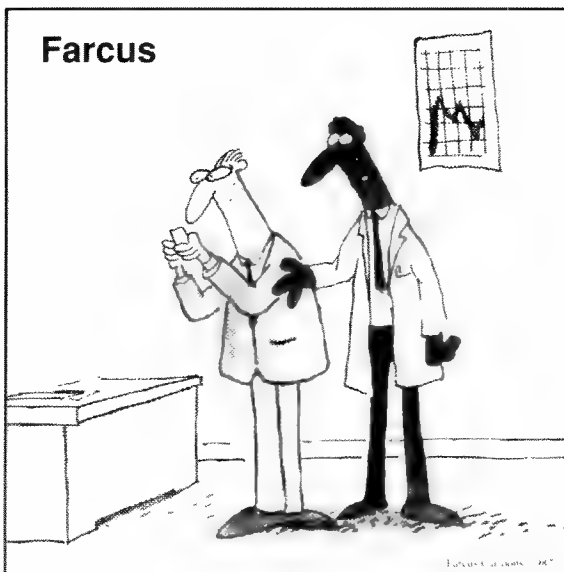
I no longer do the travel reservations, but everything else is the same. We moved again into BAB 6, and after 17 years without a window, I now have one! There have been a lot of changes over the years, but for those of us who have been here for so long — it seems like family. I am proud to be a member of the General Dynamics Space Systems team!

Space Systems Division *Orbiter* is published every other Friday. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000. Telephone is (619) 573-9373.

Reporters

Rita Jackson, CCAFS 853-5885
Ruth Cameron, VAFB 866-1709
Camille Kahlert, Huntsville 880-0660

Linda Loffredo, Editor



We're trying to reduce the paper work.

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

June 16, 1989



From left are Lyle Butler, Tim Gladfelter, Howard Patterson, Tom Hasegawa, and Dr. Alan Lovelace. Tom Barkis was unavailable for the photo.

Patterson, Others, Rewarded for Good Employee Suggestions

Howard Patterson was named the Space Systems 1988 Suggester of the Year by Dr. Alan Lovelace, corporate vice president and general manager of Space Systems, at a special awards ceremony on May 30.

Runners-up were Tim Gladfelter, Tom Barkis, Lyle Butler, and Tom Hasegawa.

According to Susanna Bruno, program coordinator, "It was a tough decision for the review board because all of the suggestions made such an impact on the division in terms of efficiency and cost savings. Their suggestions saved the division nearly \$100,000 each in the first year alone. These people received 10% of the savings from their suggestions."

Howard Patterson, Material employee, questioned the necessity of polished stock for the skin and fuel tanks of the Atlas and did research for alternative procurement requirements. Since the polished finish in no way contributed to

the form, fit, or function of the manufactured parts, changing the specifications resulted in an acceptable material at a greatly reduced cost.

Tom Barkis and Tim Gladfelter, both of Quality Assurance, submitted the idea of standardizing the master document file of all quality clauses, inspection requirements, and inspection instructions for each master part number.

Lyle Butler, a Material employee, uncovered a duplication of effort in procedures that required separate purchase authorizations for the same part numbers. His proposal eliminates duplication by simply identifying separate work orders on the bottom of each form.

Tom Hasegawa, a Research & Engineering employee, recommended the purchase of a special package for the VAX computer that would improve its performance by 25% or more, saving manhours and computer usage.

Second Survey of All Employees Forthcoming

by Lisa Lawrence, SSD Survey Manager

Your opportunity to participate in the second Survey of Employees is coming between October 2 and November 3.

The first Survey of Employees was conducted in the fall of 1986. All employees were given the opportunity to participate by completing a questionnaire. Space Systems boasted an impressive 68% participation rate.

The Sirota, Alpher, and Pfau Consultants analyzed the data and provided support during the survey feedback process. According to Dr. Bruce Pfau, "The 1986 General Dynamics Survey of Employees was one of the largest surveys ever conducted of employees in private industry."

As a result of the survey, we have seen a number of changes over the years. To name just a few, we've seen an improvement in communications, with increased all-hands meetings, quarterly meetings, and walk-arounds.

We're also shifting to a smokeless work environment with a no-smoking policy that takes effect July 1. A child care resource center was established which provides parents with detailed information on child care providers in their area. Many other notable changes have occurred, or are occurring, that improve our organizational and management effectiveness.

Since that first survey, employment at Space Systems has increased by at least 1,500. With this tremendous growth rate, our needs have also expanded and changed. This second Survey of Employees should give a good indication of what our new needs are, thus helping us to continually make good improvements throughout the division.

\$150,000 GD Gift is First Big Step Toward Expansion at the Association for Retarded Citizens

The four San Diego divisions of General Dynamics gave the Association for Retarded Citizens (ARC) a check on June 1 for \$150,000 for its Quality Expansion of Services and Training (QUEST) fund-raising campaign.



Founded in 1951, ARC-San Diego is a non-profit organization which provides a variety of programs and services for children and adults with developmental disabilities. Parents, volunteers, and concerned citizens work to improve the quality of life for people with mental retardation through education and work training programs, and social and supportive services.

The QUEST program is the first major private sector funding program that has addressed the capital needs of ARC. Monies received from state, federal, and private agencies can only be used for direct services, not physical expansion.

Without QUEST, ARC would face not only a cutback in services, but the return of many clients to state institutions (costing the taxpayers more than three times as much as the ARC program), a potentially explosive problem given the general increase in the numbers of disabled persons and the growing phenomenon of mentally ill homeless.

"QUEST will allow us to continue to provide needed services and facilities and to respond to a disabled population in San Diego that will grow by 25% in just 10 years," said Dr. Richard Farmer, ARC's executive director.

"This check represents the largest

single donation that ARC has received for the campaign," said Charlie Lloyd, SSD Finance controller and member of the ARC Board of Directors.

One of the new facilities to be built at the corner of Ruffin and Aero Drive will be named on behalf of General Dynamics.

General Dynamics' support of ARC started out small. A used company van was donated to ARC in 1955.

Since 1978, the employee Con-Trib clubs of General Dynamics in San Diego have consistently supported ARC's request for funds through grants totaling over \$25,000.



"We recognize that it is important for all citizens of our community to put their talents to work. ARC has given all people the dignity of work," said Dr. Alan Lovelace.

ARC's contract procurement and management efforts have established

It's an investment, not a contribution, because doing business with ARC makes good business sense.

— Dr. Alan Lovelace

Today, General Dynamics is a customer of ARC. Work placed with ARC — nearly all on competitive bids — has been performed with quality and on or ahead of schedule.



Electronics Division has placed orders with ARC ranging from the construction of wooden boxes and pallets to the use of their catering service.

Convair has also placed orders with ARC to sharpen drill bits and sort, label, and clean fabrication tools.

them as a leader in the development of job skills based on work capabilities and production in such field as small product assembly, shrink wrapping, microfiche production and full scale catering and cafeteria services.

A steering committee, led by Pat McGraw, has been established to explore and develop ways in which Space Systems can work with and support ARC.

Some immediate goals of ARC are to improve the public understanding and acceptance of mental retardation; to allow greater numbers of people with mental retardation to live and work in the community;

to increase employment opportunities for persons who are mentally retarded; to reduce the incidence of mental retardation through public awareness of prevention; and to improve legislative policy toward people who are mentally retarded.

NMA Presents Six Scholarships

The San Diego National Management Association presented six scholarships to children of Space Systems employees at the May 25 dinner meeting.

Recipients of the scholarships were Scott Richard Velazquez, son of Richard Velazquez; Joanne Netzel, daughter of Leonard and Thora Netzel; Melanie Marks, daughter of Michael and Mary Ann Marks; Diana Mi-Hyun Yoo, daughter of Suk Hee and Byung Yoo; Brett Davis, son of Ron and Elaine Davis; and Mario Ray Martinez, an NMA adopt-a-school scholarship recipient.

Innovative Insurance Package

On February 28, 1989, General Dynamics concluded two agreements with a consortium of European insurance underwriters to provide refund/reflight insurance for the first 15 Atlas I and Atlas II launches. At the user's option, General Dynamics can now provide insurance for reflight or refund of the value of the launch vehicle and satellite. This protection is available at a guaranteed price in advance upon signing a launch services contract. This removes the uncertainty that would otherwise be inherent over the life of such contracts.

Led by Lloyds of London and supported by other European underwriters, these arrangements include \$500-million third-party limits for primary coverage to the indemnification provided under the Commercial Space Launch Act. Atlas' 95% reliability record was essential in getting the package.

These agreements constitute the largest launch vehicle placement to date in the commercial insurance market and are the most complete package of their kind available in the world today. Obtaining this comprehensive insurance package represents a key step in providing enhanced risk management services to our customers.

Article reprinted from the first issue of Atlas Quarterly, a General Dynamics Commercial Launch Services publication.

Janet Goforth Receives YWCA's TWIN Award

Janet Goforth was honored at the YWCA's 10th anniversary tribute to Women and Industry awards luncheon on June 1 at the Sheraton Harbor Island.

The manager of Compensation, College Relations, and Motivational Programs, Janet has led two salary reviews and her group has successfully met all college relations goals and objectives.

Janet led the efforts in establishing the Space Systems Child Care Resource Center, the first of its kind in the corporation. She has volunteered and participated in consulting services for the non-profit agency Voices for Children in the area of personnel policies.

Janet possesses a management style which fits the human resources statement: "Creating an environment where people treat others as they would like to be treated."

Ninety-nine women were selected from companies throughout San Diego County for the honor. They have made many contributions in their companies or profession, serving in managerial, executive or professional roles.

Coming Soon: An EM/OS Upgrade

An upgraded version of Electronic Mail and Operating System software will be released throughout the corporation this summer. EM/OS Version 2.3 is scheduled for implementation at Space Systems during the weekend of July 15.

Included in the new release will be an expanded index function. Users will now be able to choose multiple items from the index listing and read, file, or send those items with a single command.

EM/OS 2.3 will also feature an expanded editor, including a spell checker, thesaurus, and usage checker. The ruler function has been improved to include user-settable tabs, decimal tabs, and a centering point.

The June issue of *GD World* will feature an article on the new EM/OS software. A special edition of the IRM Newsletter, *The Information Resource*, to be published in July, will detail the features of EM/OS 2.3.

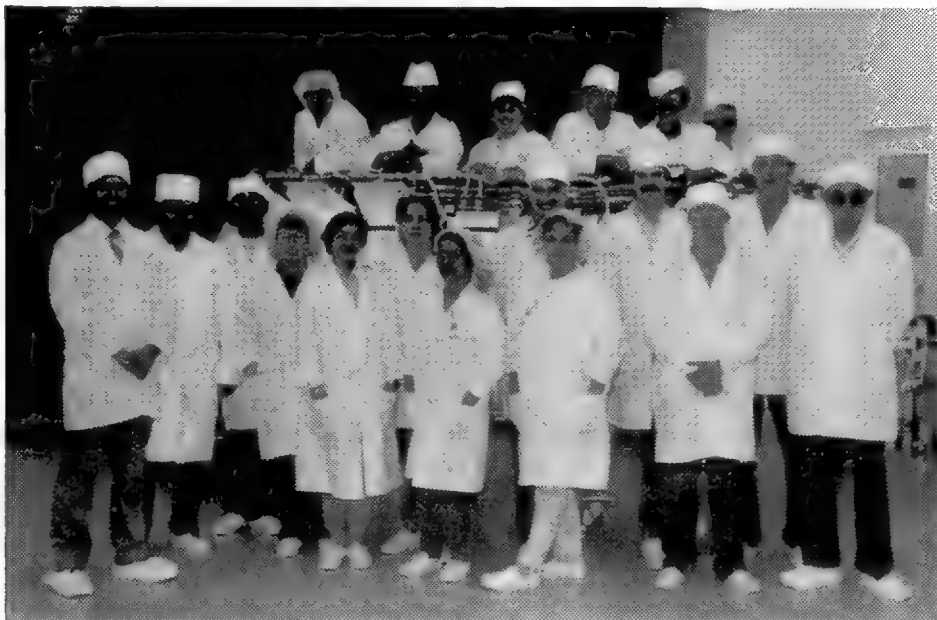
Space Briefs

AC 68 passed inspection with flying colors at CCAFS Receiving Inspection prior to being erected at SLC 36. Look for the full story in the next issue of the *Orbiter*. . . . The next Secretarial and Management Support brown bag lunch meeting will be on Thursday, June 29, from 11:45 a.m. to 12:30 p.m. in the Century Park One MIC Room. Ethics Director Alda Jorgenson will discuss the role of ethics in business. . . . The film "People of Vision" will be shown for employees on June 20 in the RDTS Conference Room, KM 26. . . . Procurement Integrity training began this week. Check with your training coordinator if you haven't been scheduled into a class yet. . . . Employees will be able to celebrate Independence Day with two days off this year, July 3 and 4. . . . If you haven't received your free copy of *The Emigrant Trail*, check with your supervisor. . . . Monies collected from the WalkAmerica are still being accepted by the March of Dimes. . . . Space Systems employment for the week ending June 2 was 4,474.

Promotions

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Mike Austin	Johnny Garcia
Conwell Avant	Joseph Hartmann
David Avants	Lura Hewitt
Domingo Barba	Jeffrey Jean
Keith Boman	Suzette LaBritte
Howard Bonstel	Larry Livell
Patricia Bullock	Michael Marasco
Teresa Cabading	Sandra McBride
Sylvia Cannon	Pamela Mell
Siegfried Coleman	Joseph Potkonjak
Pedro Cruz	Michael Short
Mark Darnell	Melanie Sortman
Eric Dunn	Cericytia Stev-Kaigler
Michael Edberg	Sreten Tomasevic
Stephen Erdle	



Ready to Ship! The crew at Vandenberg Air Force Base harness facility stands in front of the first Titan/Centaur forward adapter harness before it's shipped to Kearny Mesa. Top row, from left are: Bill Ceriale, Danny Adams II, Mary Moll, Nick Brockett, Dixie Hewitt, and Freda Ridgway. Bottom row, from left are: Jeff Reddekopp - Harness Shop supervisor, Vic Cardiel - Inspection supervisor, Mihn Nguyen, Linda Earing, Lan Sugawara, Diana Grice, Pham Hunt, Gene Bowen, Kathy Rusnic, Randy Ancheta, Jeff Howe, Charlie Bryan, and Hans Hansen.

Engineers Receive U.S. Patent

Mickey Cornwall, Bela Kainez, James Mildice, and Ted Stern contributed to an invention entitled "Point Focus Solar Concentrator Using Reflector Strips of Various Geometries to Focus Primary and Secondary Reflector."

Solar dynamic conversion systems are a potential new energy source for high-power spacecraft such as NASA's Space Station and SDI mission applications. These systems are designed with a large parabolic dish that is hard to fabricate and package for launch.

This invention replaces the parabolic dish with an array of shallow reflector strips, which are curved in one direction only. The concentrated solar energy is collected for

conversion into electricity by a turbogenerator engine. By using these nearly flat strips, the concentrator is easier to fabricate, assemble, test, fold, package and deploy, compared to parabolic dish designs.

"This invention allows a large concentrator to be deployed automatically, without astronaut assistance," says Cornwall, program manager for Space Power Generation Systems. "This would make them useful for unmanned applications, allowing them to be launched by an expendable vehicle such as our Atlas/Centaur."

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Vinh Mai, mockup and tooling builder — work

together, to show the superior products they produce, and to share newsworthy information.

January marked Vinh's first year with General Dynamics. As a mock-up and tooling builder, he makes parts and constructs prototypical versions of Space Systems' products using blueprints as his guide. In the photo above, Vinh is making parts for the Titan/Centaur in Kearny Mesa's newly-renovated building 5.

Vinh was born into a Vietnamese family in the midst of political conflict. His long journey to America began in 1975 during the fall of Saigon. Once in the United States, he was sponsored by a college student from Texas and later received his U. S. citizenship.

A graduate of Texas Technical School, his experience as an electrician and in air conditioning/heating makes him a real handyman at home.

Vinh and his wife, Dung, have two children. They are both very active in community affairs. Vinh is a Boy Scout commissioner, sings in the church choir, and leads bible study classes. He is also a member of the Vietnamese Federation of San Diego.

Photography is one of his favorite pastimes. In addition, Vinh holds a black belt in judo and tae kwon do.

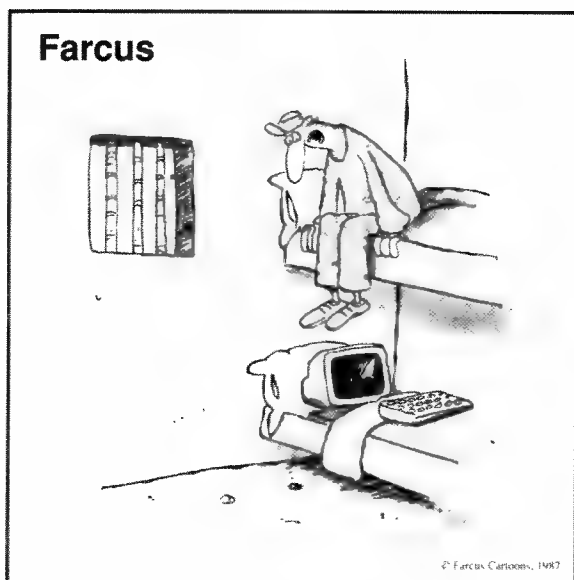
— Bill Walker, SDSU Intern

Space Systems Division *Orbiter* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

Reporters

Rita Jackson, CCAFS	853-7571
Ruth Cameron, VAFB	866-1709
Camille Kahlert, Huntsville	880-0660

Linda Loffredo, Editor



You got 25 years for a system error?

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

July 14, 1989



*All General Dynamics
Space Systems Division employees
are cordially invited to attend
a space policy speech
during National Spaceweek*

by

The Honorable

J. Danforth Quayle

Vice President of the United States

on

Tuesday, July 18, 1989

at 9:15 a.m.

at Kearny Mesa Building 5



On January 20, 1989, James Danforth Quayle was sworn in as the 44th Vice President of the United States.

Mr. Quayle was born on February 4, 1947, in Indianapolis, Indiana. He received his B. A. degree in political science in 1969. He then joined the Indiana National Guard and served from 1969 to 1975. While serving in the Guard, he earned a law degree from Indiana University in 1974.

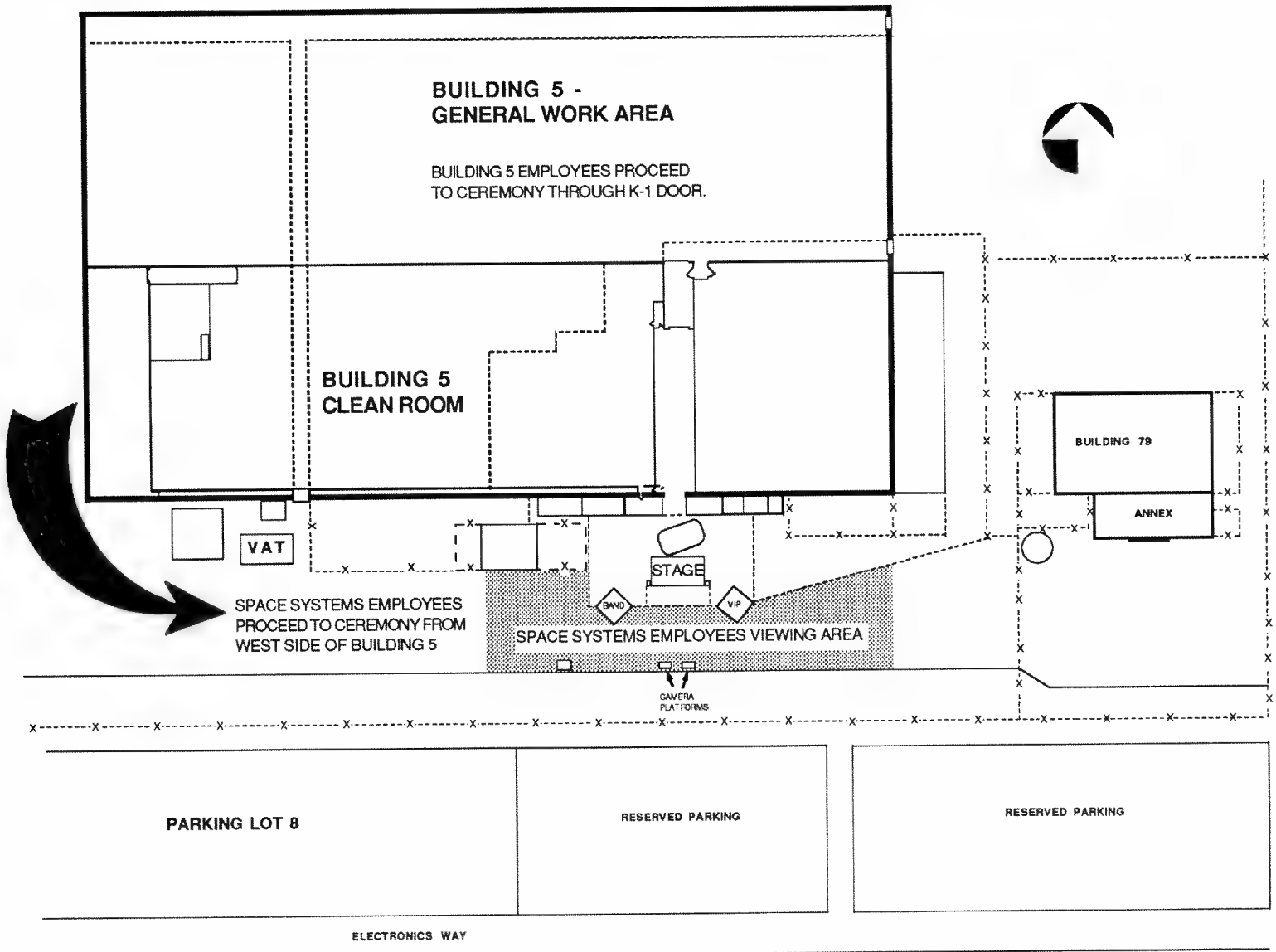
Upon receiving his law degree, Mr. Quayle worked as an associate publisher of his family's newspaper, The Huntington Herald-Press, and practiced law with his wife in Huntington.

In 1976, he was elected to the U.S. Congress from Indiana's Fourth Congressional District, winning reelection in 1978. In 1980, Mr. Quayle became the youngest person ever elected to the U.S. Senate from the State of Indiana.

During his tenure in the U. S. Senate, Mr. Quayle became widely known for his legislative work in the areas of defense, arms control, labor, and human resources. Through his service on the Armed Services Committee, the Budget Committee, and the Labor and Human Resources Committee, he became an effective senator, respected by colleagues on both sides.

In his constitutional role as vice president, Mr. Quayle serves as president of the United States Senate. He is a statutory member of the National Security Council and is the first chairman of the National Space Council, a space policy body reestablished by statute in 1988. On February 9, 1989, President Bush named him head of the Council on Competitiveness that will work to ensure U.S. international competitiveness into the 21st century.

Orbiter Special Issue



Charge Numbers: The event should last no more than 45 minutes. Indirect charging employees should use their regular indirect charge number while attending this event. Normally direct charging employees should use 6293.

Travel time to and from the event is included in the charging time. Transportation for employees at Air Force Plant 19, Sycamore Canyon Test Site, and Harbor Drive will be arranged. Please check with your supervisor for specific instructions for timecard charging and arrangements for the event.

Security: As always, employees are not allowed to bring cameras or recording equipment within the confines of the General Dynamics facilities.

Parking: Parking will be limited in Lot 8, which is south of Building 5, during the event.



July 28, 1989

Vice President Quayle Pledges 'Great Leap' in Space

Nearly 4,000 people attended a speech by the Vice President of the United States, Dan Quayle, on July 18 at the Kearny Mesa plant. The event was in celebration of National Spaceweek, which marks the 20th anniversary of the Moon landing by Apollo 11 astronauts Armstrong, Collins, and Aldrin.

Herb Rogers, president and chief operating officer of General Dynamics, and Dr. Alan Lovelace, corporate vice president and general manager of Space Systems, were on hand to welcome Vice President Quayle to General Dynamics Space Systems.

Vice President Quayle began his visit with a tour of the Space Systems Thermal Acoustic Facility, Building 5 Clean Room, and the Titan/Centaur Mockup Area, including briefings on the Commercial Atlas family, Atlas II, Titan/Centaur, and Advanced Launch Systems.

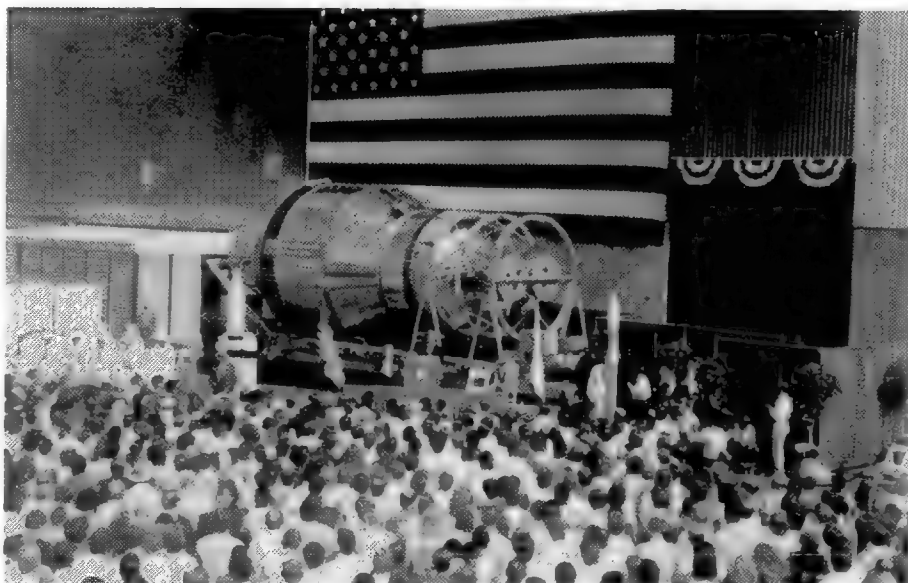
In his speech to the employees, Quayle said, "The President and I are committed to American leadership in exploration, understanding, economic use and, yes, eventual settlement of space."

"We Americans have been pushing back frontiers throughout our history. Today, space is America's frontier, and America's destiny is to discover and pioneer in space."

Quayle promised that the Bush administration would "put the pieces in place for another great leap forward" to revitalize the American space program.

He explained that the National Space Council, which he chairs, was established to provide a high-level administration focus on space. The council provides clarity, coherence and continuity to the nation's space efforts. "As a first step," he said, the council has called upon Congress "to support full funding for Space Station Freedom, the Landsat program, and the National Aerospace Plane."

Quayle said that by the dawn of the 21st century, "We must be on our way to pioneering the solar system and establishing outposts on the Moon and Mars."



Safety and Health Are Main Issue at Corporate Conference

Space Systems hosted the General Dynamics Corporatewide Health & Safety Conference on July 13 - 14. The conference provided a forum for the exchange of ideas and information among safety and health managers from each division.

In his opening remarks, Dr. Lovelace emphasized that the most important product of the safety and health program is the wellness of employees in the workplace.

Topics discussed included disaster preparedness, workers compensation case management, chemical substitution, ergonomics, systems safety analysis, confined space entry, and the computerization of health, safety, and medical information.

For more information about the conference, call Safety and Health Manager Bill DeGarmo at 38555.

Murdock, Inc. Named Key Supplier

Murdock, Inc., was selected as the Space Systems Key Supplier Award for the first quarter 1989. For the past two years, Murdock has made significant contributions in support of the division's tooling requirements.

Last year, Murdock was awarded a relatively small tooling contract to support our Harlingen facility. Based on their quality work, the contract was subsequently increased, and additional contracts awarded that have requirements involving hundreds of tools valued at several million dollars.

After winning these contracts through the competitive bidding process, Murdock has provided on-site representation to ensure the timely resolution of problems as well as the earliest possible design release.

James Muir, manager of Procurement, presented Roger Rooney, program director for Murdock, Inc., with the award at the recent Key Supplier Conference sponsored by Space Systems' Material organization.

New Version of EM/OS Installed

The latest version of the Electronic Mail and Office System, 2.3, began operating on July 17. The new features and advanced editor should increase EM/OS response time as well as provide new, useful functions for EM/OS users.

One of the new features is an on-line training option (TR), which is available at most menus and in the WPSPLUS editor. TR will display an interactive training exercise for you to work through on the command or system of your choice.

Exercise workbooks were distributed in the reorientation seminars held recently. Copies of the documentation are available by calling the EM/OS hotline at 75550 or 66661.

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Chuck Abernathy, Engineer, Manufacturing Engineering, Production, 35 years

Amil Allawas, Launch Service Technician Senior, Cape Canaveral Air Force Station, 31 years

James H. Brady, Inspector - Launch Service, Cape Canaveral Air Force Station, 29 years

Charles Cordial, Launch Service Technician Senior, Vandenberg Air Force Station, 30 years

Bob Hinck, Operations Product Manager, Production, 34 years

George Howell, Engineering Specialist Senior, Systems Analysis, 31 years

Ed Jaeschke, Tool & Manufacturing Engineer Senior, Production, 32 years

Dale Kuhn, Launch Service Technician Senior, Cape Canaveral Air Force Station, 32 years

George McGee, Launch Service Mechanic Senior, Cape Canaveral Air Force Station, 18 years

Billy Shook, Base Equipment Mechanic Senior, Cape Canaveral Air Force Station, 30 years

Tony Vasques, Engineering Specialist Senior, Structures & Mechanical Systems, 31 years

Walt Woolford, Reliability Engineer Senior, Quality Assurance, 23 years

Bond Drive Achieves 94% Participation

As of June 15, Space Systems had 69% of the employees buying U.S. Savings Bonds. Upon completion of the two-week savings bonds campaign on July 7, the participation level of employees purchasing U.S. Savings Bonds was at 94%, or a total of 4,194 people. Of that number, 884 employees increased their payroll deduction for the savings bonds. Also noteworthy is the fact that we surpassed Fort Worth Division by 3%.

This year's campaign was led by LeRoy Bennett, vice president of Material. Dave Parsons, Procurement manager of Subcontracts and coordinator of the campaign activities, had words of praise for the supervisors and bond canvassers, "Our thanks to all those who organized the effort in their areas and collected the cards on a daily basis. The success belongs to them and, most certainly, to all the bond participants."

Winners of the daily prizes were:

Marthe Smith - Day cruise to Ensenada
Keith Taylor - \$75 Nordstrom gift certificate
Harvey Ennis - Dinner for two at Mr. A's
Chris Fulmer - Night away for two
Arlin Brown - Day trip to Catalina
Pat Steward - Dinner at George's on the Cove
Diana Pryor - Night away for two
Joseph Stack, Jr. - Day trip to Catalina
(Joseph works at Cape Canaveral AFS)
Howard Rollins - \$75 Nordstrom certificate
Lee Telquist - Theater tickets and dinner
John Arkwright - Charger tickets
Kristian Anderson - Walkman radio
Paul Fueri - Humphrey's tickets
(Paul works at Cape Canaveral AFS)
Sam Contasti - CRA HFC membership
Long Nguyen - Binoculars
Mark Giffith - Theater tickets & dinner
Jose Perez - One year San Diego Zoo passes
Lynette Asperin - Camera
Janie Peterson - Fishing trip for two
John Lanari - Padre tickets & dinner
Judith Molnar - Cordless telephone
Raymond Haynes - Theater tickets & dinner
John Kronberger - One year Sea World passes
Bob Dupuis - Telephone answering machine

Winners of the grand prizes were:

Larry Johnson, Jim Kerr, and Tom Nguyen - Trip to the Atlas/Centaur-68 launch at Cape Canaveral
Carl Brock - Trip to the Atlas E launch at Vandenberg Air Force Base (Carl was one of the winners of the A/C-68 launch — however, he works at Cape Canaveral!)

Programs Update

Atlas Programs

The Atlas/Centaur-68 vehicle is on the stand at Cape Canaveral AFS. Most flight components have been delivered. All preliminary certificates-of-completion are approved. The final one will be signed during the Launch Readiness Review. The critical-to-launch spares are nearly in place, such that the overall Launch Support Readiness is 94%. Thanks to all involved for this "high intensity" effort.

Atlas I

Atlas and Centaur tanks for AC-69 are holding their scheduled weld-complete dates of August 1 and September 1, respectively. Both vehicles are currently in major weld at Air Force Plant 19.

The AC-69 thrust section (first article) has been completed at Harlingen and delivered to Vandenberg AFB.

Heath Tecna-manufactured jettisonable insulation panels have successfully passed proof load testing. Heath Tecna has been given go-ahead for Atlas I panel production.

Atlas II

Early cut-in of modern avionics to AC-101 has been approved. It offers advantages in engineering resources and customer satisfaction. The program office has begun addressing the implementation and schedule assurance issues.

Ground winds testing at Langley Research Center has been completed. Results showed good agreement with pretest predictions and indicate slightly better than anticipated wind load restrictions.

Titan/Centaur Program

Efforts on Titan/Centaur production are focused on overcoming a behind-schedule position in many work centers. Major recovery is needed in tank weld, some procured parts, and subassembly buildup in support of final assembly.

Thanks to those involved in the design and accomplishment of the highly successful simulated Titan/Centaur loading into the aft end of a modified U.S. Air Force C-5A aircraft.

Titan/Centaur structural test vehicle is being prepared for the "stiffness" testing at the Sycamore Canyon Test Site.

Harlingen completed and shipped the Titan/Centaur-8 aft adapter to San Diego.

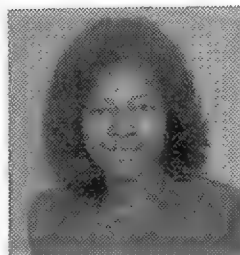
Fran Richardson Named EEO/AAP Manager

Fran Richardson was named manager of Equal Employment Opportunity and the Affirmative Action Program at Space Systems.

In this new role, Fran will be responsible for the development of our EEO/AAP policies, associated training programs, monitoring the programs to ensure compliance, and for reviewing, investigating, and resolving any complaints that may arise regarding alleged violations of our company's EEO/AAP policies.

"I'm looking forward to enhancing these programs at Space Systems. Employees can be assured of complete confidentiality and an environment of trust and honesty.

"I will be encouraging a team effort by employees to get involved with outside organizations in networking so we can continue to recruit and hire the best candidates. 'Good faith efforts' in our hiring practices will help us make great strides in becoming an equal opportunity employer."



Promotions

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Lynn Asperin
Scott Blanck
Alan Bokow
James Chinnery
Marc Corona
Joe Da Cong, Jr.
Jackie Ellis
Linda Fischer
Michael Green
Teresa Hayes
Gary Kranz
Troy Kuenne
Jay Larkins
Mary Lasiter
Barry Matsumori

Margaret Miller
Ruth Niebla
Mike Piatt
Kevin Pimlott
Kimberly Richards
Denise Ripingill
David L. Smith
Frederick Strickland
Mark Szczecina
Deborah Szoyka
Bobby Trichel
William Trudeau
Victor Valdez
Richard Volz
Deborah Ware

Contract Signed Largest Ever Issued by SSD

Space Systems and Rockwell International's Rocketdyne Division recently signed the largest single contract issued by Space Systems. The \$650.7 million agreement also represents one of the largest contracts ever authorized by the General Dynamics Corporation.

The contract provides for 61 shipsets of Atlas booster and sustainer engines to support the Atlas I and Atlas II programs currently in production.

Definitization of this contract represents a major milestone in our progression into the commercial launch vehicle business and extends an important long-term team relationship between Space Systems and Rocketdyne.

Space Briefs

Congratulations to **Billy Simmons**, the Production Employee of the Second Quarter. . . **Hal Hofherr** was appointed general counsel for Convair and Space Systems, replacing **Cushman Dow**, who retired after 27 years with the company. . . **Jack Funkhauser** was named the Contracts & Estimating Employee of the Second Quarter. . . The **Vandenberg Air Force Base Family Picnic** is scheduled for August 12 at the Los Alamos County Park. . . Congratulations to **Lisa Lawrence**, named Human Resources Employee of the Second Quarter. . . CRA Travel is organizing a trip to **Hearst Castle** on the weekend of October 13. Call 38248. . . The **CRA Ecology Club** will meet for lunch at noon on August 2, KM 4 courtyard tables. Call **Mike Haro** at 74771 for more info. . . Engineering's **Systems Software** group enjoyed a recognition party on June 23 at CRA Missile Park. . . Video copies of **Vice President Quayle's** visit to SSD are available to employees for checkout through Training and Development. . . **Lynn Neuhardt** was named Employee of the Month for June for Quality Assurance. . . Space Systems **Transportation** is now offering bus transportation to and from Air Force Plant 19. . . Space Systems **employment** for the week ending July 14 was 4,624.

Reenlistment Ceremony Held in Front of AC-68

Chief Vincent Elston and Petty Officer Thomas Cook had a special request for their reenlistment ceremony in the Navy — could it be held at the site of a launch vehicle at Cape Canaveral?

On June 30, their special request became reality. Through arrangements made by our Customer Relations Manager Jim Codd, the ceremony was held at the base of AC-68, right on the ramp pad. Members of the Air Force, Navy, and Space Systems personnel, as well as family members, witnessed their reenlistment swearing-in ceremony. Lt. Col. Wayne Penley, Commander, CCAFS, presided over the ceremony.

A Grand Slam Evening for Special Olympians

Thanks to about 20 Space Systems employees, 87 Special Olympians in the San Diego area enjoyed a Padres versus Cubs game on July 15 at Jack Murphy Stadium.

This year's second annual GD-Special Olympians Baseball Game was organized by Channing Burns and Josie Dawson. In addition to enjoying the Padres' Beach Towel Night, the Special Olympians received a bag of promotional items supplied by General Dynamics and the Padres team. Plans are already underway for next year's gathering.

The Space Systems employees went all out to ensure a "grand slam evening for all!"

Holiday Greeting Cards Selected, on Sale Soon

Winners of the NMA Holiday Greeting Card Contest were announced last month.

Rudy Dekkers, engineer at Vandenberg Air Force Base, and Hilbert Montijo, material handler at Air Force Plant 19, were the Space Systems winners. Senior high school students from Hilltop with winning drawings were Stacie Klages and Michael Artiaga.

Sketches of each of the winning entries will be featured in an upcoming issue of the NMA Space Leader, as well as details on how to preorder the holiday greeting cards.

GD's Workforce Drops 1,500 Pounds

Since September, 1988, Weight Watchers has implemented their very successful At Work program with General Dynamics employees. So far, 177 employees have gone through the program to lose a total of 1,500 pounds.

These participants met once a week at lunchtime for 12 weeks each session. At each meeting, participants weighed in, listened to an educational lecture, shared concerns, and received new recipes.

The next At Work session begins Tuesday, August 15, at 11:45 a.m. in Century Park 2, first floor. The cost is \$90. Call CRA Health-Fitness Center at 39921 to sign up.

The purpose of the Space Systems *Orbiter* is to report the way employees — like Carolyn Ficken, computer systems administrator in Proposal Development



& Marketing Communications — work together, to show the superior products they produce, and to share information.

Carolyn is a key member of the team that consistently prepares timely and high quality business proposals and related materials. She ensures the availability and compatibility of computer systems employed by proposal team members to develop text and graphic materials, then coordinates the transition to Graphic Services for final production.

Carolyn enjoys two very intriguing hobbies. The first is making authentic porcelain replicas of Victorian dolls popular in the 17th, 18th, and 19th centuries. The dolls are made using molds from German and French originals.

Making wedding cakes is her other hobby. Like the dolls, it is a very exacting and a true "labor of love" that Carolyn undertakes for friends and acquaintances.

—Bill Walker, SDSU Intern

Space Systems Division *Orbiter* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000.

Telephone (619) 573-9373. Reporters:

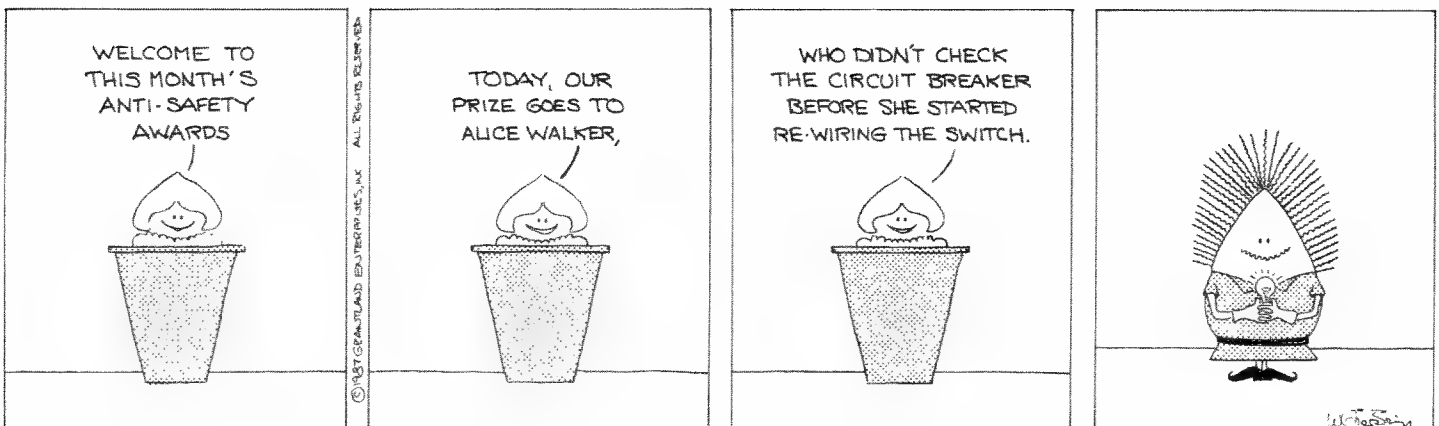
Rita Jackson, CCAFS 853-7571

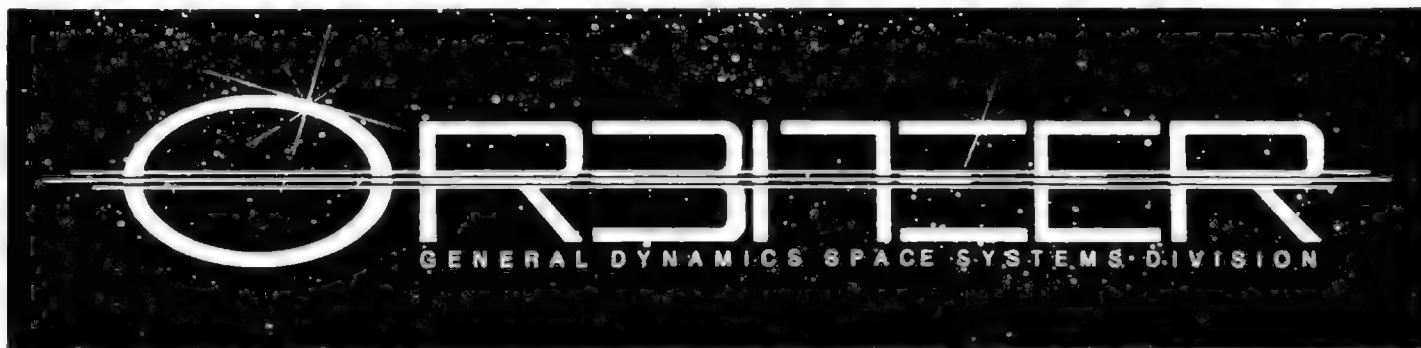
Ruth Cameron, VAFB 866-1709

Camille Kahlert, Huntsville 880-0660

Linda Loffredo, Editor

GRANTLAND®





August 11, 1989



Participants in the 1989 Program Managers Institute were (front row, from left) Randy Abeyta, Al Acuna, Tim O'Leary, John Early, Ichi Wakabayashi, Dave Silva, Howard Biegler, Kristine Buitenhek, June Scheuble, Bob Ratcliffe; (center row, from left) Ken Bychak, Norma Hunter, Marv Steinman, Steve Arnett, Laurie Campbell, Mike Jensen, Jim Boyd, Mike Altieri, Bruce Cordell, Brian Niznik, Greg Adolph, Harvey Ennis, Jay Stoneburner; (back row, from left) George Stetz, Jim Valk, Ron Davis, Winston Armstrong, and Barry Long.

Program Managers Institute Tackles Real Business Issues

The fifth annual Program Managers Institute at Space Systems was held August 2 to 4. Twenty-eight employees attended the three-day program at the Rancho Bernardo Inn.

The purpose of the Program Managers Institute is to broaden the participant's understanding of how we do business at Space Systems Division.

Dr. Alan Lovelace and division staff members made presentations about the operating principles of functional areas and the interface with program managers. Topics covered were: material, planning and resource management, contracts and estimating, the role of the program manager, quality assurance, finance, research and engineering, business development, and production. Guest speakers included Terry Stracter, division

vice president and assistant general manager of Electronics Division, and Moon Mullins, corporate vice president for Government Relations.

Five division projects, selected from the current business environment at Space Systems by division staff, were assigned to crossfunctional teams. The teams met with their project sponsors and developed a 60-day strategy to solve their assigned problems. Two months from now, each team is going to present its findings to division staff. The purpose of the project is to expose the participants to areas of division business that they might not ordinarily have contact with.

The highlight of the event was Wednesday night's dinner hosted by Dr. Alan Lovelace.

An Alternative to Travel Videoconferencing

The General Dynamics Videoconferencing Network (GDVN) rooms became available August 1.

The rooms will provide communications via video conferencing in full-motion "big rooms" where conferees are seated at camera-monitored workstations viewing off-site participants on large screens while talking through a high-fidelity audio system. The network rooms are designed to operate with government officials, aerospace teaming partners, vendors, and subcontractors. The primary purpose of this new system is to curtail expenses associated with one- and two-day travel to corporate office and other locations.

Videoconferencing rooms are located at Corporate Office, Fort Worth, Pomona, Valley Systems, Washington D.C. and San Diego.

The San Diego GDVN room is located at Kearny Mesa, building 4. Scheduling arrangements can be made by calling B. J. Barker at 38152.

Herb Rogers, president and chief operating officer of General Dynamics, promoted the GDVN as a means to "improve employee productivity, enhance communications and reduce travel."

Watch for Lunar Eclipse!

Keep your eye on the southeasterly sky on Wednesday, August 16, for a lunar eclipse. From 8:08 to 8:57 p.m., the eclipse will render the moon either completely invisible or copper in color. By 8:57, the eastern side of the moon will be bright again. The Earth's dark inner shadow will leave the western side of the moon entirely by 9:56, ending the eclipse.



Mike Felix holds the attention of a group of children from the American Cancer Society as he demonstrates rocket propulsion at CRA Missile Park.

Camp "Reach for the Sky" Includes Trek to Space Systems

Children attending the "Reach for the Sky" camp, sponsored by the American Cancer Society, spent a fun-filled day at CRA Missile Park on July 26.

The children, ages four through eight, are either suffering from cancer or are in remission. The week-long camp gave them the opportunity to go to summer camp just like kids of normal health.

Accompanied by camp counselors, the 45 children were given a big welcome by Ron Stoneburner, vice president of Contracts & Estimating, and then turned loose to enjoy train and carousel rides, as well as cotton candy, popcorn, and snowcones. Casey the Clown also showed up with entertainment and a basket full of bubblegum.

Six-year old Tiffany's enthusiasm could be seen in her big brown eyes and smiling face as she announced, "I went around the park six times on the train!" Her only moment of discontent came when she feared not being able to have a third cotton candy.

Their camp theme "Adventures in Space" was right on target with the afternoon activities. Following a hamburger and hot dog picnic, each child received a Polaroid photo taken of the youngster in front of the CRA missile. Mike Felix, director of Advanced Space Systems, had his own countdown to launch as he demonstrated how rocket propulsion works.

Bruce Cordell, Mars/Lunar Advanced Research Studies manager, recruited many volunteers for the next space mission when he showed "The Moon & Mars: Our Future in Space" slide presentation.

Gerald O'Barr, engineering specialist in the Materials & Processes Laboratories, had the kids spellbound as he demonstrated what happened to objects put in liquid nitrogen (320 degrees below zero). The children also had fun with Gerald's heat-detector machine that colorfully reflected their various body temperatures.

Seven Space Systems employees served as hosts for the event: Dick Gilbert, Kathleen Kita, Rich Lenyk, Linda Loffredo, Sheryl Squire, June Scheuble, and Karen Young.

"Along with being a very enjoyable community relations activity," said Alda Jorgenson, director of Space Systems Community Relations, "it was very rewarding, too. A day spent with this children puts life back in its proper perspective."

EEO/AAP Training

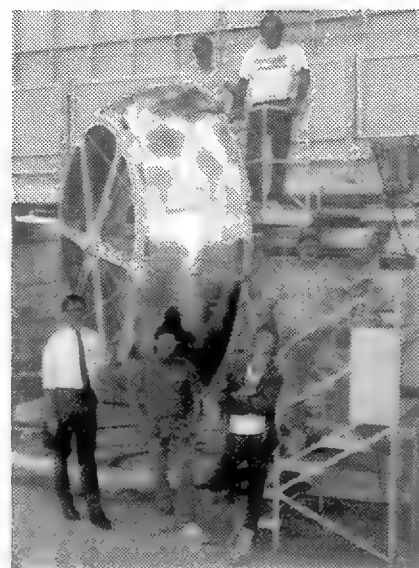
As part of Space Systems' commitment to maintaining a work environment free of discrimination, intimidation, and sexual harassment, Equal Employment Opportunity and Affirmative Action training has been initiated. Supervisors will be required to participate in the program. The objective is to reinforce understanding of EEO/AAP concepts. Classes will continue through August 21. Contact your training coordinator to make arrangements for the class.

Classes Teach Valuable Welding Skills

A three-week welding certification training class is being offered to newly-hired metal fitters at Air Force Plant 19.

The class, which has been offered since January, consists of 60 hours of hands-on equipment use and 60 hours of resistance welding theory and manufacturing specifications study.

The students also study specifications for resistance spot and seam welding and manufacturing operations for welding nickel foil. Upon completion of the training with proven proficiency, the students will receive certification cards allowing them to operate all resistance welding equipment for Atlas I and II and the Titan/Centaur programs.



Students demonstrate operation of a C-gun resistance spot weld machine: (clockwise from top left) Tim Savage, Brian Oberfoell, Tim Mastalo, Dave Rheame, Dave Bennett, and instructor Jim Decker.

Refurbished Labs Open with Ribbon Cutting Ceremony

A ribbon-cutting ceremony was held July 25 at Kearny Mesa building 28 to celebrate the completion of the refurbishment and expansion of the Materials & Processes Laboratories. The laboratories conduct research involving critical technologies essential to both ongoing and future products.

The project entailed refurbishing 18,000 square feet of existing labs and adding 2,500 square feet of new space.

A significant investment has been made in new equipment. A new numerically-controlled lathe and mill was purchased that is expected to result in a 60% reduction in the cost of conducting routine receiving inspection tasks.

A filament winding machine and thermographic inspection unit will support investigations of new materials and manufacturing and inspection methods aimed at reducing costs and improving the performance and quality of our products.

The refurbishment represents the first major milestone of the plan to upgrade all Materials & Processes labs. Design and construction of a new cryogenics laboratory at Kearny Mesa is under way and renovation of the remaining labs is slated over the next two years.



Marty Winkler, vice president of Engineering, and Dick Hora, vice president of Planning & Resource Management, have the honor of cutting the ribbon to the refurbished labs.



The first set of new Atlas engines, manufactured by Rocketdyne, has been accepted by a joint team of Rocketdyne and Space Systems personnel. The engines will be used on Atlas/Centaur 70, which is scheduled to launch a GOES payload. The timely completion of the engines is the result of dedicated team members completely overcoming the engineering, procurement, and manufacturing startup problems caused by a five-year dormancy period. The Rocketdyne/Space Systems team shown here is (from left): Art Montoya, Elizabeth Jones, Fernando Vivero, Kristy Rice - resident manager for SSD Field Support, David Hall, Jim Kephart - engineering specialist, Dave Jamison - senior engineer, and Bill Evanich - SSD quality assurance rep.

Stay on the Safe Side of Security

Employees with a security clearance have a number of reporting requirements imposed upon them by the United States government.

Notification to our Industrial Security is required when traveling to a foreign country or attending an international meeting, even within the U.S.

Most of the reporting requirements are to protect classified information. Others, however, are intended to prevent disclosure to a foreign country of technical or scientific information that is not classified, but is protected under government regulations. Whether written or oral, disclosure of protected information to a foreign country can carry severe sanctions, both to a corporation and to the individual.

Cleared Space Systems employees, consultants, and temporary personnel are now required to report to Industrial Security any personal exchange with a foreign national or citizen representing a "designated country."

A designated country is defined by the government as one whose "policies are inimical [hostile] to U.S. interest." A list of these countries is maintained in the GDSS security manual, SeM 21.1, Section 4.3. Your area security

representative has a copy.

A "personal exchange" is defined as an "encounter, either in person or in writing, whereby, as a minimum, the identity and occupation of the parties become known to each other." This includes business as well as personal relationships, and could be an exchange of business cards or honoring a request for a report that has been approved for release.

If you need clarification on any security issue, please contact the Industrial Security office at 75521.

Space Briefs

Congratulations to **Jim Baechele**, selected as the Material Employee of the Second Quarter. . . . Mark your calendars for the Annual **Santa Maria Barbecue** at CRA Missile Park on September 23. . . . **Parking** is limited at **Century Park**, so please park in locations designated compact or large car parking as appropriate, to make parking easier for everyone. . . The **Material** department raised \$150 for the Con-Trib Club at their department picnic, mostly from the tickets purchased to plunge **LeRoy Bennett's** staff in the dunk tank . . . Space Systems **employment** total for the week ending July 28 was 4,682.

Good News for Your Graphic Repro Needs!

Copier services is expanding. Starting on Monday, August 14, a new copy center will be open at Viewpoint Plaza. Also, there will be additional pickup and delivery services to all plant locations.

The Copier Services department provides all 8-1/2 X 11 copying, while Convair Graphic Reproductions will continue to provide offset and engineering print reproduction.

Please clip and save the following information for future reference:

Copier Services Locations

Kearny Mesa 26, column E-13,
ext. 75179

Hours: 6:30 a.m. - 3 p.m.

Century Park 1, column S-28, ext. 77124

Hours: 6:30 a.m. - 11 p.m.

Viewpoint Plaza 2, SE corner, ext. 65255

Hours: 6:30 a.m. - 3 p.m.

Copier Services Pickup and Delivery

7 a.m.: Century Park 1 - 4 lobbies, mail drop-in, or CP 1 Copy Center

7:45 a.m.: Daley Center lobby

8 a.m.: Viewpoint Plaza Copy Center

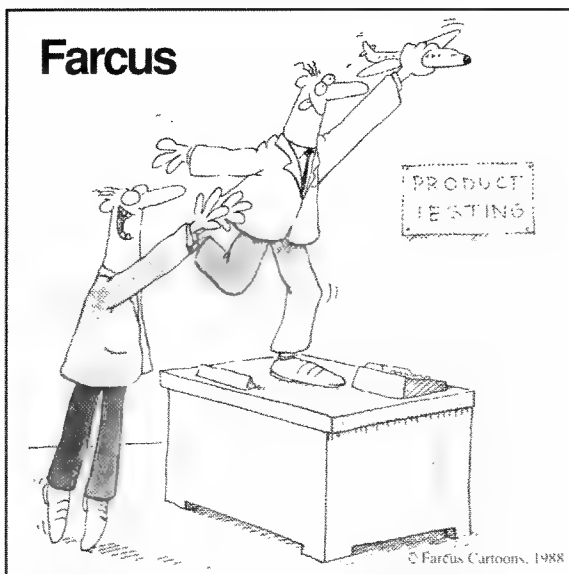
8:45 a.m.: Air Force Plant 19, Bldg. 3,
column 15 hot box area

9:30 a.m.: Kearny Mesa 4, Convair
Graphic Reproductions

9:45 a.m.: Kearny Mesa 26 Copy Center

If you have any questions, call
Mary Piper Jones at 75882 or 75808.

*General Dynamics Space Systems is
an equal opportunity employer.*



Okay, okay. But it's my turn next!

"Balancing Work & Family"

Employee Benefits is sponsoring a workshop on family care entitled "Balancing Work and Family." It will cover time management skills, dealing with guilt, and setting priorities. It will be held Tuesday, August 15, from 4:45 to 6:15 p.m. at CRA, room C. The workshop is free and open to all GD employees and their spouses. Call Ellen Mathews at 39915 to register.

"Behavior Management of Pre-Schoolers"

The SSD Childcare Resource Center is sponsoring a brown bag lunch presentation entitled "Behavior Management of Pre-Schoolers." It will be held Friday, August 18, at Kearny Mesa building 26 in the MIC Conference Room, first floor. Session I will be held from 11:00 to 11:30 a.m. Session II will be held from 11:30 a.m. to 12:30 p.m.

The guest speaker will be Denise Witherspoon, Ph.D., from National Resource Consultants.

For more information, contact Susi Cowan at 38979.

Fall Shape-up Class

The final Health Fitness Center shape-up program for 1989 begins September 11.

The ten-week adult fitness course teaches good eating habits and weight management. It includes an educational workbook, pre-and post-fitness testing, a presentation on nutrition and stress management, as well as personal instruction.

Classes will be held Mondays, Wednesdays, and Fridays at 4:30 and 5:05 p.m. at Kearny Mesa, and 4:45 p.m. at Lindberg Field.

The cost is \$10 for HFC members and \$70 for non-members.

To reserve a spot, please call Kearny Mesa at 39921 or Lindberg Field at 23736.



The purpose of the SSD *Orbiteer* is to report the way employees — like Tom Kessler, on the Advanced Launch System chief engineering staff — work together, to show the superior products they produce, and to share information.

Tom was instrumental in the development of the vehicle concept for ALS. He is part of the team that is at the forefront of developing a modular family of vehicles which can meet the nation's requirements at substantially lower cost with higher reliability.

One of the most noteworthy aspects of Tom's ten-year career with General Dynamics was his involvement in an experiment for the space shuttle. The test was designed to study the effect of zero gravity on arthritis. Six rats were injected with a drug simulating arthritis and placed in an animal enclosure module that would enable them to fly on the space shuttle. Tom's task was to design the module so that absolutely none of the rats' odors escaped into the shuttle's cabin. His design was a success and the first operational flight of the module was in February, 1984, on shuttle mission STS-11.

Besides his interest in conceptual design of products, he also enjoys photography. This summer marks the fifth anniversary of his marriage to Susan, whom he met at the infamous yogurt machine in KM building 4. They have a two-year old daughter, Christina.

—Bill Walker, SDSU Intern

Space Systems Division *Orbiteer* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiteer*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

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Linda Loffredo & Karen Young, Editors	

ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

August 25, 1989

UHF Follow-On Contract Signed

General Dynamics' Commercial Launch Services, Inc. (CLS) has officially signed a contract with the Hughes Aircraft Company's Space and Communications Group to provide launch services for ten U. S. Navy UHF (Ultra High Frequency) follow-on communication satellites.

"This is a significant breakthrough in our efforts to capture a major share of the commercial launch market," said Dr. Alan Lovelace, president of CLS.

"Selection of our Atlas for this important program is another indicator of the increasingly growing recognition of General Dynamics as the dominant U. S. provider of launch services."

— Dr. Alan Lovelace

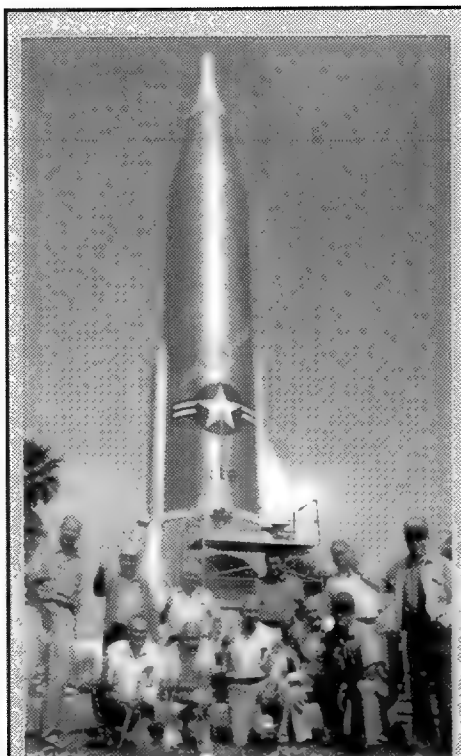
Hughes selected the Atlas for the UHF launches after an industry-wide competition. The first of ten of the Hughes newly-designed satellites is expected to be launched in 1992. Subsequent launch rates could reach three per year.

UHF satellites will be launched from Launch Complex 36 at Cape Canaveral Air Force Station.

The UHF satellites are designed to be compatible for launch with either Atlas or the Space Shuttle. If the Navy exercises all ten Atlas options, it will increase commercial orders to 17 firm with options for eight others. The first commercial launch will occur next year.

Space Systems offers a family of Atlas launch vehicles that are capable of addressing over 90% of the expected commercial launch market through the 1990s. The family of the reliable Atlas includes Atlas I (4,950 pounds to geosynchronous transfer orbit), Atlas II (5,900 pounds to GTO), Atlas IIA (6,200 pounds to GTO), and the Atlas IIAS (7,700 pounds to GTO).

Atlas commercial launch services are marketed and managed by CLS; the launch vehicles are produced and launched by Space Systems.



CRA Missile Lures Retirees Back to Work. Thirty General Dynamics retirees went back to work on the CRA Atlas missile, originally built in 1962.

See page 4 for more story.

Safety Contest Winners Honored

The Quality Assurance Failure Analysis Lab and the Engineering Avionics Lab were the two winning departments of the 1988 Safety Contest.

The purpose of the annual safety contest is to create positive safety attitudes, prevent accidents, and involve employees in safety and health procedures.

As a reward for their exemplary efforts, the employees and their families from these departments were treated to a picnic at CRA Missile Park on Sunday, August 6.

Bernie Kulchin, division vice president of Human Resources, presented the department safety plaques to John Nelson, Quality Assurance chief of Failure Analysis, who in turn awarded the group award to engineers Dan Bergen, Bob Petersen, and Carl Wannamaker. Manny Lopez was the recipient of the individual award.

Mr. Kulchin also honored the Avionics Lab winners when he gave its director, Bob DiNal, safety plaques. Jerry Owen, chief of Avionics, then recognized winning group engineers Ed Corbett and Dale Davidson. The individual honor went to employee representative Bobbie McManus.

"With the many disciplines that we work in from machine shop to chemical processing of printed circuit boards," reflected Jerry Owen, "we are very pleased that we haven't had any serious accidents during the past year. This record is attributed to the employees who are very aware of the safety rules and regulations and have a very positive attitude towards safety, while accomplishing their task on schedule and producing a high quality product."

Educational Development Fair

An Educational Development Fair will be held Wednesday, September 6, from 4:15 to 6:30 p.m. at the CRA Pavilion, Missile Park.

The fair, sponsored by the Women's Networking Group, will feature training representatives from Space Systems, Convair, Electronics, and Data Systems Divisions who will provide information on educational assistance, PROFNET, internal training programs, tuition reimbursement, and extended study programs.

Representatives from local universities and several engineering professional societies will provide information on enrollment, tuition, and workshops.

For more information, contact chairperson Michele Stern at 49755 or Mary Bannon at 78795.

Reinvestigation of Security Clearances

The Defense Industrial Security Clearance Office (DISCO) is conducting a reinvestigation of government-issued security clearances that are five years old or more.

It is required that selected employees with active security clearances complete the package now being sent to them by Industrial Security and return it promptly.

If you would like more information or need assistance with filling out the questionnaire, contact Security at 75325 or 75660.

Lost Key Round-Up

A lot of forgotten keys are floating around our division. Many desk, file cabinet, and door keys are either lost or forgotten during moves, so please make an effort to round these up and send them to the Lockshop, MZ 50-1370.



New Help Line Phone Stickers Available

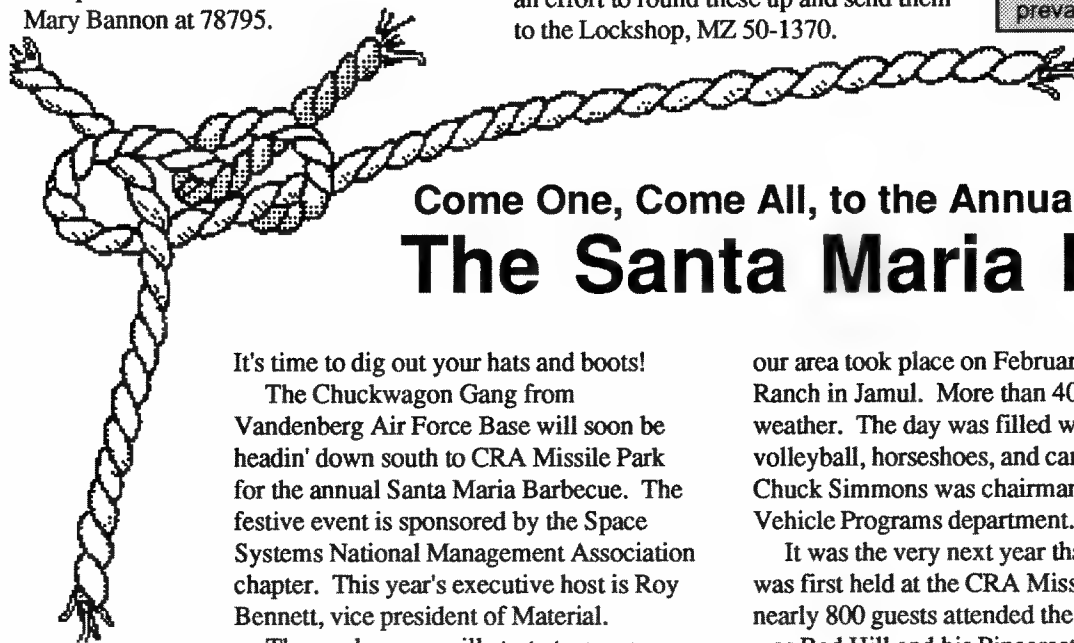
Updated Help Line phone stickers are being distributed via training coordinators. These stickers should be placed on the inside of the Ethics handbook or near your phone.

Did You Know . . .

That the cost of making a call within the Greater San Diego area is approximately \$.08 to \$.10 for the first minute and \$.03 for each additional minute, and is billed back to your department.

Calls to San Diego's North County are considered toll calls and are billed at \$.17 to \$.25 for the first minute and \$.07 to \$.16 for each additional minute.

Long distance calls are billed at the prevailing rates.



Come One, Come All, to the Annual Company Picnic The Santa Maria Barbecue

It's time to dig out your hats and boots!

The Chuckwagon Gang from Vandenberg Air Force Base will soon be headin' down south to CRA Missile Park for the annual Santa Maria Barbecue. The festive event is sponsored by the Space Systems National Management Association chapter. This year's executive host is Roy Bennett, vice president of Material.

The rendezvous will start at noon on Saturday, September 23. There will be games, rides, drawings, prizes, and entertainment that pardners of all ages will enjoy. The dinner of every cowboy's dream will be served from 3 to 5 p.m. Everyone is sure to come away feeling quite content after feasting on prime beef barbecued just right over a Santa Maria red oak fire. This will be topped off with ranch style beans, salsa, potato salad, garlic bread, and ice cream.

For all you ranch hands who like to get the most out of their fun, weekend RV camping will be available on the north side of the park from Friday, September 22, at 7 a.m. to Sunday, September 24, at 8 p.m. Camping is free, so no exchange of money or goods will be necessary. Reservations can be made by calling 39918.

As with most old-time events, there is quite a history behind the Santa Maria Barbecue. The first Santa Maria shindig in

our area took place on February 24, 1973, at Jerry's Party Ranch in Jamul. More than 400 folks braved the rainy weather. The day was filled with hayrides, horseback riding, volleyball, horseshoes, and campfire singing. That first year, Chuck Simmons was chairman for the sponsoring Launch Vehicle Programs department.

It was the very next year that the Santa Maria Barbecue was first held at the CRA Missile Park. On April 20, 1974, nearly 800 guests attended the event. The highlight of the day was Red Hill and his Pinecrest gang staging their famous shootout, with the villians eatin' dust in the street of Western Town. And it was that year when VAFB Base Manager Curt Johnston and his team brought the famous Santa Maria BBQ trailer and 1,500 pounds of beef to San Diego.

The Santa Maria Barbecue was, and continues to be, prepared by members of the Vandenberg NMA chapter. And so, the tradition lives on. This year's program promises to follow the same customs as experienced in the past 16 years of fun, including the famous shootout.

Tickets to the event can be purchased from you area NMA booster. Cost for adults is \$8, and \$2 for children.

If you have any questions, contact Sal Acampora at 77551 or Tim O'Leary at 25415.

So come on out, pardners. Remember, Saturday, September 23, is one round-up you won't want to miss!

Programs Update

Atlas Programs

AC-68

The launch of AC-68 has been postponed due to (1) bad weather in Florida causing a delay in the terminal countdown demonstration test, and (2) another vehicle launch at Cape Canaveral which preempted our launch. The revised launch date for AC-68 is estimated to be September 22.

Atlas I

The Atlas tank for AC-69 continues in major weld. The Centaur tank is in work with a repair. The shipping dates to Kearny Mesa of the Atlas and Centaur tanks are currently September 14 and 11, respectively, after which they will begin pressure testing.

The 37-inch payload adapter (Eutelsat) separation system has successfully completed its fifth of six separation/shock tests.

The sustainer engine for AC-71 has successfully completed a full 300-second acceptance run. AC-70's sustainer engine has completed postfiring checkout and will be ready for delivery to Vandenberg Air Force Base once our San Diego team has reviewed the data and records.

Atlas II

Several minor concerns were identified when Norman Engineering conducted a 30% design review of the fixed foam insulation facility on August 3. The schedule, however, still indicates a November, 1989, construction start, with completion expected in March, 1990.

The final briefing to the USAF was held August 10 on the 423.5Klb booster engine uprate. It was agreed that the uprate should be implemented on the first Atlas II vehicle (AC-101). Early implementation will allow hardware changes to be tested during Design Verification Testing. Should any problems develop, the engines will be readjusted to a lower thrust level.

Titan/Centaur Program

A demonstration was performed June 20 and 21 to verify the capability of loading and unloading a Titan/Centaur vehicle into a modified Air Force C-5A aircraft. The demonstration consisted of opening the aircraft, laying out the track assembly, loading the Shuttle/Centaur structural test vehicle, and loading the support equipment.

The completion of the demonstration was a major step in preparing Titan/Centaur-8 for shipping to Cape Canaveral Air Force Station on March 9, 1990.

In support of the TC-8 vehicle final assembly, a forward and an aft adapter were moved into the clean room area of KM 5. The component installation is expected to be done by August 30 for the aft adapter and September 18 for the forward adapter.

A request for proposal for a follow-on buy of five Centaurs and one option vehicle was received from Martin Marietta on June 16. The dedicated effort of the proposal development allowed the proposal to be submitted two weeks ahead of schedule, on August 1.

The "It's Okay" poster series will continue with a new designer. Gary Kranz, senior project engineer, will continue the motivational series recognizing the importance of positive messages to the Titan/Centaur program.

Ready... Set... Click! Employee Photo Contest

To all GD employees: now is your chance to discover those dormant photography talents. Or, for those of you who already know your photography is just as good as Ansel Adams', here is your opportunity to show the world. At least the GD world.

Announcing the GD photo contest! All employees, except GD's professional photographers, may enter the competition by submitting an 8x10 print of any subject. Photos may be black and white or color, and in glossy or matte finish.

As many as 48 winners will receive savings bonds, and their photos will illustrate a 1990 company calendar. The top 12 winners will each receive a \$200 savings bond and have their photos featured on the top half of each calendar page. The other honorees will be recognized with a \$100 bond and have their entries included in the calendar.

Photo negatives must be available on request and no special darkroom effects are allowed.

To enter, send a print with your name, employee number, division, and day and nighttime phone numbers to: Contest, Public Affairs Office, General Dynamics Corporation, Pierre Laclede Center, St. Louis, MO 63105.

If you would like your print returned, include a self-addressed 8x10 envelope. The contest deadline is November 1. All entries must be postmarked no later than October 31. Any photo taken since June, 1988 is eligible.

Put Your Invention to the Test!

Patent Review Board Here Soon

The next Patent Review Board will be held on September 14.

The PRB panel, a group of experienced engineers in various fields of technology, will review employee inventions and determine which are potentially patentable.

If you would like to have your invention examined by the PRB, please submit your invention disclosure by September 7 to the Legal department.

For more information, call 73542 or 73402.

Space Briefs

Systems Engineering held its annual picnic August 12 at CRA Missile Park. Dave Clemons hosted the event at which 300 pounds of food was collected to help feed the homeless and elderly in San Diego. . . . CRA will soon be offering CPR certification classes at Lindbergh Field. If you are interested, call Karleen Herkowski at 23736 for more details. . . . Cape Canaveral Air Force Station's company picnic will be held October 8 at KARS Park. . . . Retirement and SSIP offices have been moved back to the Benefits Office in KM 8. They had been temporarily located in trailer 78. . . . SSIP changes can be submitted until August 31 to go into effect October 1. . . . Alcoholic Anonymous meetings are held every Thursday at 4:30 p.m. at Viewpoint Plaza, 3rd floor, room 2. For confidential inquiries, call 68880. . . . Dr. Lovelace was a guest speaker at an all-hands meeting at Cape Canaveral Air Force Station last week. . . . Space Systems employment for the week ending August 18 was 4,780.

The renovation project took place three days a week beginning in April. The retirees met their completion target date of August 4.

Retirees posing in front of the missile are (from left to right): Wes Magnuson, Joe Miller, Joe Butera, Carl Pereira, Bud Finlay, Mike Alianelli, (kneeling) Art Lindvedt, Tony Berardini, Bill Ziehl, Neil Tracy, and Rene Collette.

Transportation Has A New Home

Space Systems' Transportation department opened their new offices and dispatch center August 14.

The new location is at the southwest corner of Kearny Mesa building 5.

For all transportation, crane, and rigging services, call 75400.

"You call, we haul, that's all!"

Corporate Sportsfest Coming to San Diego

Sportsfest, a national corporate sports competition, is returning to San Diego on September 30 and October 1.

Last year, CRA sponsored 20 team members from General Dynamics in San Diego to compete in the event, which included volleyball, swimming, and other water activities. The GD team prevailed, winning against the whole San Diego field of over 130 teams.

This year, CRA will sponsor two teams of 16. Tryouts may be necessary.

Both women and men are needed, if you are interested in competing. Please call Amy Boncher at 39921.

You Deserve a Break Tonight! Join the SSD Parents' Network

SSD parent employees can exchange babysitting favors by signing up with the Child Care Resource Center's Parents' Network.

Through the Network, SSD parents can hook up with one another in their geographical area to give each other a night off from their children.

If the network interests you, please fill out the Parents' Network form found in the CCRC, KM 26, first floor, column E22, where completed forms will be kept.

CCRC is also offering a Babysitting Network where SSD employees' teenagers advertise their babysitting services for certain geographical areas.

If you have a teenager who would like to advertise his or her babysitting services, pick up a form in CCRC and have your teen fill it out. Once returned, the forms are filed in a binder to be used as a babysitting directory.

Forms can be dropped off or mailed to: CCRC, MZ 21-7142, P.O. Box 85990, San Diego, CA 92138-5990.

PARKING ALERT: Please do not park in reserved or designated parking spaces.

There has been a number of unauthorized vehicles in the parking slots assigned to the Defense Contract Administration Services, NASA, and commuters.

Not only will these cars be ticketed, third-time violators will be towed.

The purpose of the Space Systems Division *Orbiteer* is to report the way employees — like Kitt Douglas, industrial engineer — work together, to show the superior products they produce, and to share newsworthy information.

A graduate of Northwestern University in Illinois, Kitt has been with General Dynamics for two years. She works very closely with the Production department in determining our budget position which compares the hours expended to the number of hours allowed in the contract. She also assists them in ensuring performance is on target with the master component schedule.

Kitt enjoys chalk sketching while sitting on her downtown panoramic balcony. She has two cats, named "Self" and "I". "This," she says, "is to complete the sequence of 'me, myself, and I'."

Kitt is very committed to her job and has a goal of becoming a senior engineer in two years.

— Bill Walker, SDSU Intern

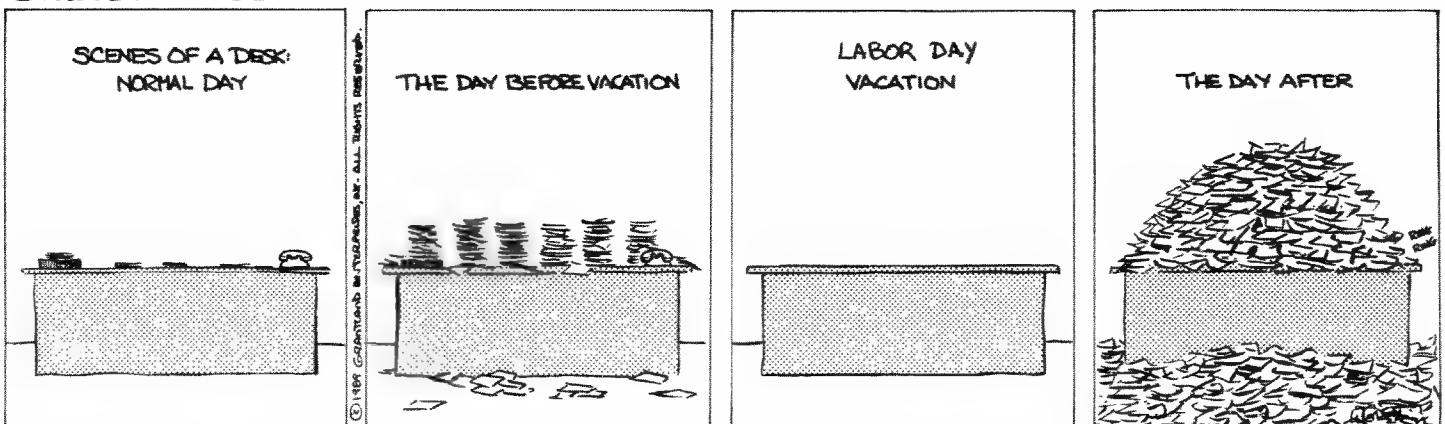
Space Systems Division *Orbiteer* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiteer*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

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Linda Loffredo & Karen Young, Editors



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ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

September 8, 1989

The Total Quality Management Philosophy: Nothing New to Space Systems

Total Quality Management (TQM) is a management philosophy that encompasses all aspects of our business.

"Since our division was formed in 1985, Space Systems has been operating on principles very similar to those of TQM," said Dr. Alan Lovelace, corporate vice president and general manager. "We've looked to our employees for new and better ways to do our business.

"Our objective is to improve performance, enhance schedules, and reduce costs," Lovelace continued. "This should be a continuous improvement process, not just another program, so that our emphasis is on long-term improvement."

TQM is the combined application of human resources and quantitative methods focused on achieving an atmosphere of continuous improvement and customer satisfaction.

"The objective," said Don Moore, vice president of Quality Assurance, who is leading the division effort, "is to make TQM a way of life. TQM is a new management culture that empowers employees to continually improve processes. We recognize that people will do the best job they can given the current process. Therefore, we need to really look at some of our processes.

"The most important element of TQM is active involvement at all levels of responsibility," said Moore. "Our greatest opportunities for improvement lie in our administrative processes."

Currently within our division, several TQM projects are under way. Each project begins with the selection of a team of employees who best know that particular process. They're referred to as

a process action team. The training they receive includes the seven basic statistical tools, a structured approach to problem solving, and team building. Management works closely with the teams to ensure they have the necessary tools and resources to accomplish the task.

For example, the Finance organization is looking at the Time Distribution Card process; Production is studying manual fusion welding and master scheduling; Contracts & Estimating is looking at the contract change process; and Quality Assurance is evaluating supplier surveys, supplier designee programs, and quality verification test request reports.

***The most important
element of TQM is
active involvement
at all levels
of responsibility.***

In a recent executive memorandum, Stan Pace, chairman and chief executive officer of General Dynamics, said, "I believe that implementing TQM will, over time, result in a significant cultural change for the corporation.

"Our existing programs, such as GD2000, Statistical Process Control, Variable Rate Production, Manufacturing Resource Planning, and the Management Effectiveness Program have been moving us in this direction for some time. However, the success of this undertaking will require fresh thinking, full

AC-68 Ready for Lift Off September 22

The Atlas/Centaur 68 launch is on schedule for September 22 to place FLTSATCOM-F-8, the eighth U.S. Navy communications satellite, into geosynchronous earth orbit.

Lift off is scheduled for 4:30 a.m. eastern time (1:30 a.m. pacific), with a launch window of 57 minutes.

The launch window is the time frame in which the launch must take place to deliver the satellite to its proper orbit. If the launch does not occur within the 57-minute window, the mission will be postponed.

A C5-A transport was used to deliver the newly-fabricated Centaur and the Atlas booster from Miramar Naval Air Station to Cape Canaveral Air Force Station. Subsequently, AC-68 was successfully erected at Space Launch Complex 36B in June.

cooperation, and dedicated individual participation from everyone in the company. I request that each of you join me in dedicating ourselves to the success of this undertaking."

By the end of the year, every employee in our division will receive a two-hour briefing (at minimum) about the TQM philosophy. In many areas (Quality Assurance, Finance, and Material), briefings are already complete.

Also in the next six months, the TQM division executive steering committee will develop a mission statement, guiding principles, and an implementation plan for Space Systems.

Promotions

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Len Ashton	Gail Golden	Mary Longo	John Shalhoub
William Beers	Troy Griesemer	Todd Loutzenheiser	Salvatore Shields
Michael Blessing	Jackie Harpole	Tozz Pegues	Cece Simon
Mildred Brockett	Joseph Hess	David Power	John Soltmann
Ron Davis	Michelle Hickey	Scott Price	Patricia Stevens
Bob Di Nal	Bradley Key	Owen Ruede	Carol Troha
Rene Diaz	Troy Kuenne	Jon Saul	Marty Winkler
Jerry Durden	Charlie Lloyd		



Launch Pad Stand Serves New Purpose

From the far reaches of Neptune to the floor of the Atlantic Ocean, General Dynamics is involved with projects that expand our knowledge and enhance our world.

The "Hummin'bird Space Reef" was a joint project involving state and federal agencies, the military, private industry, non-profit foundations, government contractors, and private citizens working together to build an artificial reef to aid the natural food chain and support the ecological balance off the Florida coastline.

The idea for the reef project was conceived about 18 months ago. Obsolete launch pad materials were donated by the U.S. Air Force, Naval Ordnance Test Unit, and Space Systems Division.

On August 23, a barge bearing an umbilical tower and the Shuttle/Centaur vehicle test support stand was sunk by explosives to the bottom of the ocean floor and transformed into an artificial reef. The umbilical tower came from Space Launch Complex 36A, having been removed from service in 1983 following an impressive past. SLC 36A supported many historical Atlas/Centaur launches, including the Pioneer and Mariner spacecrafts, which performed flybys and landings on Mars and Venus, as well as flybys of Jupiter.

The Complex also launched Atlas/Centaur missiles that boosted the Surveyor spacecraft to the moon. These missions paved the way for manned moon landings, by studying its environment through mappings and landings. Without this valuable knowledge, manned landings on the moon would have been impossible.

In the next six months, barnacles, algae, and other organisms will attach themselves to the structure and provide food for the next link in the food chain. Larger fish such as groupers and snappers will then feed on these grazing fish. The reef is located 18 miles due east of Cape Canaveral Air Force Station.

"Most artificial reefs are made up of old ships, barges, and rubble," commented Steven Phillips of the Artificial Reef Development Center. "This will be the first reef in the United States consisting solely of historical space structures. We are very grateful to General Dynamics Space Systems for the role they have played in this donation."

EAP: A Program for Today's Employee

by Mike Felchlin

Our personal lives have become increasingly more complicated with today's pressures. Family structures are changing with two working parents, introducing conflict with child care, lack of quality time for personal relationships, and the unmet expectations of achieving more in less time. The additional responsibility of caring for an aging parent or relative adds to the pressure. Nationwide, chasing the American dream has led to mortgage payments of four digits on the average.

The majority of the time, our own problem-solving abilities provide us enough options. However, when the problem becomes seemingly unsolvable, it becomes a disruptive force in our personal as well as professional lives.

To enhance our employees' well-being and address these difficult problems, the Employee Assistance Program has been made available to all employees and their family members.

This program was created to protect our division's most valuable resource: our employees. The single goal in mind was to assist our employees in resolving personal concerns that might be adversely affecting their lives.

If you have questions regarding the scope of the EAP or feel that the EAP could be of assistance to you, you're welcome to either stop by my office at Viewpoint Plaza two or call me at 68880. If you prefer, you may also make an appointment directly with our counselors providing the services (National Resource Consultants) at 291-0330.

Services are provided through the EAP at no cost to the employee and are completely confidential.

ATTENTION, GRADUATES

If you have received your degree in the last six months through GD's Tuition Reimbursement program, call Terri Wheeler of Training and Development at 65702.

Final Roundup for the Santa Maria Barbecue!

Ticket sales for the 17th annual Santa Maria Barbecue are going fast! The picnic will be held at CRA Missile Park on September 23. The day promises to be filled with lots of fun and good food, so don't miss out. Get your tickets now. Cost for adults is \$8, and \$2 for children.

The legend of the famous barbecue has spread all the way to St. Louis and has enticed Mr. and Mrs. Herb Rogers to attend. There will be many fun events, including an afternoon dunk tank featuring some very popular targets, bingo games, and lots of good music.

Children of all ages will enjoy the train, merry-go-round, and games ranging from a diaper derby to a treasure hunt to sponge relays and sack races. Adult kids can sign up for over-the-line, horseshoes, basketball freethrow, volleyball, and tug of war.

An NMA ticket raffle will be held to raise funds for scholarships to children of Space Systems' employees. Scholarship drawing prizes include: a trip to the Cape for the AC-69 launch, a \$75 gift certificate to Nordstrom, Sea World passes, a \$75 gift certificate to the Broadway, a dinner for two, models of the Atlas II and IIA, GD jackets, and paper weights.

The park will open at noon on Saturday. The famous Santa Maria prime beef with all the trimmings will be served from 3 to 5 p.m.

There will be something for everyone, so don't miss out!

Retirees

Thanks and good luck to these Space Systems employees who recently retired:

Alan Breslauer, Senior Project Engineer, Titan/Centaur Program Office, 33 years

Jack Brower, Senior Engineer, Quality Engineering, 1 year

Al Cooper, Senior Engineering Specialist, Systems Development, 32 years

Dick Dubel, Group Engineer, Quality Engineering, 32 years

Fred Fitzgerald, Program Control Specialist, Master Scheduling, 33 years

John Huddleston, Material Operations Supervisor, Integrated Logistics Support, 33 years

Earl Rice, Engineering Drawings Checker, Structures & Mechanical Systems, 1 year

Lee Scherer, Senior Staff Member, Commercial Launch Services, 5 years

Lou Thoulion, Material Project Administrator, Production, 40 years

Le Roy White, Senior Engineering Specialist, Avionics, 34 years

New Technical Course Offered Electrostatic Discharge

Silent and invisible when it strikes, static electricity in the form of electrostatic discharge (ESD) is causing great loss of both electronic products and productivity in electronic manufacturing plants.

Damage is traceable to causes such as the transfer of charge from human skin, friction produced by the movement of plastic packaging materials during transport, air flow in convection ovens, spraying of conformal coating, and stripping insulation off printed circuit boards.

As part of Space Systems' continuing effort to combat ESD, Quality Engineering and Human Resources personnel are establishing an ESD training program for those employees whose job assignment requires direct contact with ESD-sensitive devices, including component level piece parts, subassemblies, and assemblies where the risk of ESD damage may exist.

If such work pertains to you, contact your training coordinator for information.

Sandler Named Manager of Employee Relations



Rick Sandler has joined Space Systems as the manager of Employee Relations. He replaces **Bob Guth**, who has recently accepted the position of

corporate director of Labor Relations in St. Louis.

Rick comes to us from the Pomona Division, where he was the Labor Relations administrator. In this role, he was responsible for all labor and management relations, as well as training related to employee relations policies. Prior to joining General Dynamics, Rick was the personnel manager at NTS Software, Inc.

Helpful Hints from DSD Customer Support Center

Before calling for service:

1. Check all connections for a loose or broken wire.
2. Ensure the screen intensity is not turned down on your terminal.
3. If your terminal, printer, or PC is still not working, make note of the barcode number and node name and call Debra at DSD Customer Support Center at 33375.

Space Briefs

CRA Travel is taking reservations for a cruise during the Thanksgiving holiday to **Mazatlan**. For more information, call 38248. . . **CRA Amateur Radio Club** is holding a 12-week novice amateur license class. If you are interested, call Nick Callas at 292-9169, early a.m. or evenings. . . **CRA Travel** is planning a shopping spree to the **Los Angeles Garment District** on October 28 via chartered motorcoach. Reservations must be in by October 13. Call 38248. . . Space Systems **employment** total for the week ending August 25 was 4,784.



"Team Atlas" members (from left: Andrew Dunlap, Mike Marasco, Rick Anderson, and Dana Batchelor) took fourth place out of 250 teams competing in the "AT&T Four-Man Corporate Cycling Challenges." The Vandenberg-Space Systems cycling team came to the Irvine competition after training together for only two months. They will continue to train with high hopes for next year's competition.

Family Care Workshop on Aging

A Family Care Workshop on healthcare and aging will be held Tuesday, September 26, from 4:45 to 6:15 p.m.

The purpose of the workshop is education on accessing appropriate care of the elderly. It will cover housing, homecare, residential, and congregate.

The workshop will be held at the CRA clubhouse in Kearny Mesa in meeting room C. To register, call Ellen Mathews of Employee Benefits at 39915.

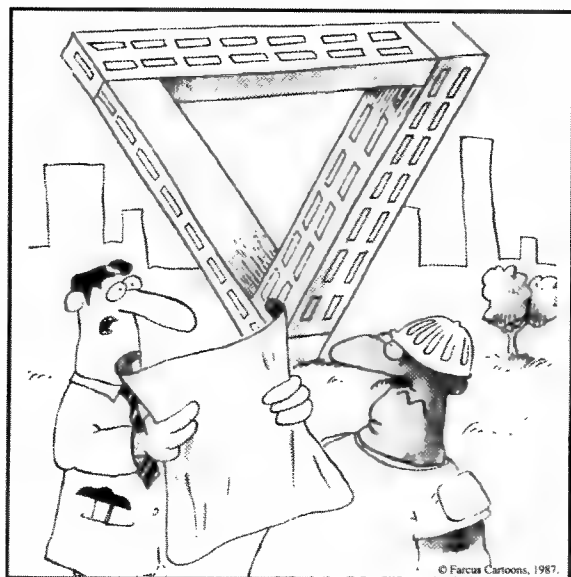
Theater Is Back at GD

August marked the return of theater to General Dynamics in San Diego with the CRA Players production of Woody Allen's "Don't Drink the Water." The hilarious comedy provided entertainment for more than 800 people during the four weeks it ran.

The play, held in the CRA auditorium on the newly remodeled stage, was directed by Dick Guerrero, and starred Jim Murray and Janet Pratt. The supporting cast included Tom and Carla Walker, Monica Hower, Karl Bunch, Jean McCassey, Barbara Robbins, Dave Short, Renee Anderson, Al Sapowith, Milan Patel, Lorretta and John Harry, Bernard Jacquez, and Mike Pawiak, Gina

Scopellite, Jim Huizenga, Robert Yahake, Jim Bushway, and Dave Rethoret.

With the success of the first show behind them, the CRA Players are preparing for the fall production of "All the Girls Came Out to Play." Auditions will be in early September. Opening night is scheduled for October 27, with the play running through November 18. Membership in the CRA Players is open to all GD employees and families. If you are interested, call Mary Ann Marks at 77059.



I don't understand... it works on paper.

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Chris Holland, facilities engineer — work together, to show the superior products they produce, and to share newsworthy information.



A Space Systems employee for the past 18 months, Chris has combined his sense of responsibility to protect the environment with his job duties in Environmental Resource Management at Cape Canaveral Air Force Station.

Chris must keep constant watch on all of GDSS' environmental responsibilities at the Cape. He interfaces with local citizen's groups and governmental regulatory agencies.

Chris took his responsibility for ensuring environmentally-sound construction projects a step beyond his job description with his involvement in the Hummin'bird Space Reef project (story on page three). His vision of an opportunity to benefit the environment and GDSS with the donation of the Space Launch Complex 36A tower was transformed into the August 23 sinking of an environmentally-supportive artificial reef that was once an umbilical tower and Shuttle/Centaur test support stand.

Chris was appointed to the Local Emergency Response Commission by State Representative Frank Stone. The Commission is responsible for devising ways to handle chemical emergencies over a six-county area.

Chris likes to relax at home in a room devoted entirely to tropical fish tanks.

— Rita Jackson, CCAFS Reporter

Space Systems Division *Orbiter* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9551
Camille Kahlert, Huntsville	880-0660
Linda Loffredo & Karen Young, Editors	



September 22, 1989

Space Systems Responds Enthusiastically To President's Lunar/Mars Initiative

General Dynamics Space Systems employees enthusiastically joined in the applause for the Lunar/Mars initiative set forth by President Bush in his July 20 speech commemorating the 20th anniversary of the Apollo 11 mission moon landing.

The President's new space plan has the strong support of General Dynamics at its highest corporate level.

Stan Pace, chairman and chief executive officer of General Dynamics, and Herb Rogers, president and chief operating officer, have both asked Space Systems Vice President and General Manager Dr. Alan Lovelace to maintain a close connection with the NASA investigations in order to provide specific input on the corporation's supportive action to the GD Board of Directors.

"Space Systems has initiated three separate but coordinated action teams in response to the president's initiative," said Howard Bonesteel, director of Advanced NASA Programs. "Our objective is to support NASA to the fullest extent possible as they prepare their report for the National Space Council at the end of October."

Ultimately, the council's report will go to the President and include a comprehensive mission description and analysis, a program plan, technology assessment, and a cost and schedule analysis.

Earlier this year, Space Systems was awarded a three-year Space Transportation Infrastructure Study by NASA's Marshall Space Flight Center in Huntsville, Alabama. The purpose is to identify future space transportation requirements and the new technologies needed for those systems.

Winning the study gave Space

Systems a key role as a planning partner with NASA and a running start on the task force effort now in process on Lunar/Mars.

Eight Space Systems people who have been working on the infrastructure study in San Diego have relocated to Huntsville to supplement the five already there. The team will concentrate on transportation elements needed to support the initiative.

A second team will increase GDSS's interaction with the Johnson Space Center in Houston to work with the center in overall mission planning. JSC is the lead NASA center for the overall task force.

"At Space Systems, we have completed numerous studies on ways to go to the Moon or Mars," Bonesteel said. "There is also a lot of data collected throughout the entire industry. The infrastructure study for Marshall SFC is the key element in our support of the Lunar/Mars initiative because it takes all the possibilities and examines them in a model that can define the 'best' solutions."

A third internal team will collect and evaluate the developing data and establish independent positions in order to provide some strategic directions for Space Systems and the business opportunities presented by the initiative, which may involve new systems through the second decade of the next century.

"We want to position ourselves to compete effectively as program definition and future opportunities emerge," said Bonesteel. "While the President's Lunar/Mars initiative opens the door for a great expansion of space programs, the scope is so broad that potential roles exist within it for many GD divisions. A key objective of the internal studies is to

determine which corporate capabilities may be available (or needed) to help NASA press forward with this dramatic new program."

Article submitted by Steve Seus, business development manager, NASA programs. Excerpts taken from the September GD World, story written by Julie Andrews.

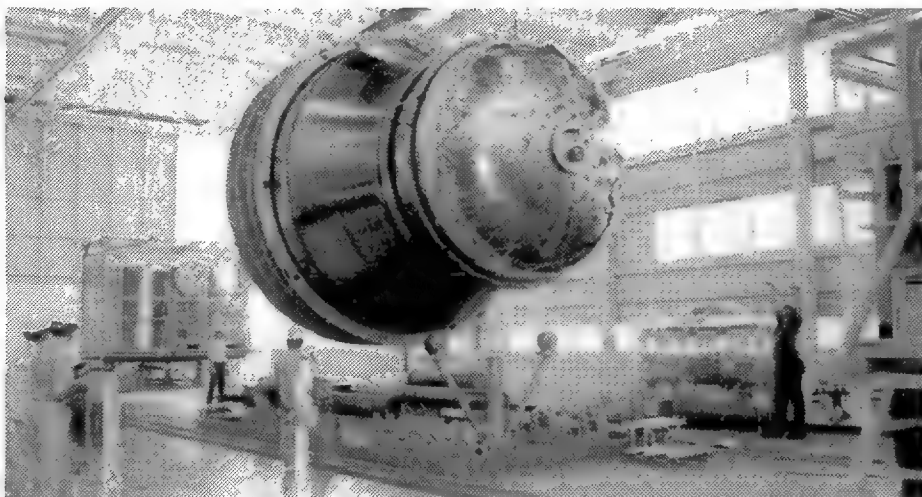
Commercial Atlas IIA Selected to Launch Intelsat K Satellite

The International Telecommunications Satellite Organization has selected the Atlas IIA for launch of their Intelsat K satellite. Their board of governors has authorized the organization to contract with General Dynamics Commercial Launch Services for a December, 1991, launch.

The Intelsat K is a high-power Ku band satellite planned for transatlantic video and business services.

Atlas IIA is a commercial derivative of the Atlas II that will launch military communication satellites for the Air Force. Both Atlas II and IIA incorporate increased propellant capacity and higher thrust booster engines. The Atlas IIA also integrates uprated engines in its Centaur upper stage.

This is the third Atlas commercial launch committed to INTELSAT this year. In March, Atlas IIAS was selected for two launches of INTELSAT 7 satellites in 1993. Atlas has provided 24 launches for INTELSAT, but those were contracted through NASA rather than as a direct commercial contract with General Dynamics.



TC-8, the first production vehicle of our current contract, has completed all production weld assembly operations and was moved into the wash facility at Air Force Plant 19 on September 2. In wash, the tanks are being cleaned internally. Internal installations are scheduled to be completed September 27 for delivery to Kearny Mesa final assembly. It is planned that final assembly and checkout will support a March 9, 1990, delivery to Cape Canaveral Air Force Station.

GD Donates \$50,000 for Space Center Houston

General Dynamics has made a commitment to the Manned Space Flight Education Foundation of \$50,000 toward a new visitor and education facility planned for the Johnson Space Center.

Space Center Houston, designed by Walt Disney Imagineering, will be filled with displays, visuals, historical exhibits, and space hardware to give visitors a hands-on feel for the manned space flight program. Guests will be able to listen to space experts, hear up-to-the-minute briefings on NASA developments, and see first-hand how astronauts train.

*A permanent tribute to
manned space flight . . . a
celebration of our nation's
accomplishments in space.*

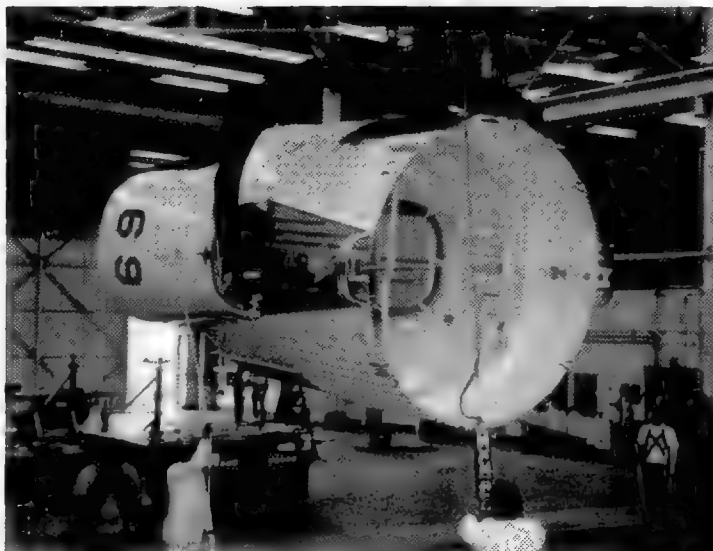
Not a museum or a theme park, Space Center Houston is intended to be a place where visitors can experience the dream of space and, for a few brief hours, feel they are part of NASA.

The multi-level complex will contain six major attractions under an eight-story dome. Guests will be able to see, admire,

and actually board mockups of Skylab, the Space Shuttle, and Space Station Freedom. The Mercury Faith 7, Apollo 17, and Gemini 5 will also be on display.

The 123-acre site, located at Johnson Space Center, is scheduled to open in 1991. It is expected to be the nation's focal point for the U. S. manned space-flight program, as well as the biggest tourist attraction in Texas.

Space Center Houston is a privately funded effort sponsored by Manned Space Flight Education Foundation, Inc.



The AC-69 thrust section, the first hardware built at GD Harlingen Operations plant, arrives at VAFB for the Atlas I. Vandenberg production employees are currently installing components in anticipation of performing the trial mate task with the tank, soon to arrive from San Diego.

SHARP Screening to Reduce Mission Failures

The United States Air Force has issued a regulation establishing a Space Human Assurance Reliability Program (SHARP) in which government contractors and subcontractors are required to participate at certain launch facilities.

The purpose of SHARP is to prevent or minimize the risk of space launch and operations mission failures due to intentional or unintentional acts by personnel who have access to designated space launch operations facilities or positions.

The government program was designed to screen and evaluate personnel involved in certain critical space-related operations. Individuals whose duties require unescorted entry to designated space launch and operation positions will be identified, briefed, screened, certified, and monitored.

Portions of Cape Canaveral Air Force Station and Vandenberg Air Force Base are included in the program. In San Diego, Industrial Security is in the process of determining which individuals here will require SHARP certification.

Attention: the Survey of all Employees is coming October 2. Be on the look out for flyers providing all the details.

Programs Update

Atlas Programs

Atlas I

The Atlas and Centaur tanks for AC-69 continue in major weld. The shipping dates to the pressure pit are currently October 9 for the Atlas and October 27 for the Centaur.

The first production set of the AC-69 jettisonable insulation panels are in the layup/cure cycle at Heath Tecna Aerostructures. Delivery to Cape Canaveral Air Force Station is scheduled for the end of December for support of the June, 1990 launch.

The AC-70 Centaur tank is being held for the major weld fixture. The aft and intermediate bulkheads, as well as the constant skins, are in work for both AC-70 tanks. The forward bulkhead for the Atlas tank is being held because of part shortages.

Atlas II

Engineering releases have reached 85% of the requirements for the Atlas II non-recurring program.

The critical design review for the Rocket Research hydrazene-powered Atlas roll control module has been completed and went very well.

Titan/Centaur Program

TC-8 has moved out of major weld into the wash station. Its battery busing unit and power control unit have been delivered by Electronics Division. The hydrazine system has been completed and moved to the Clean Work Area. Harlingen delivered the aft adapters for both TC-8 and TC-9. The first flight harnesses have been installed on the TC-8 forward and aft adapters.

TC-9 is progressing through the new major weld. The original major welder headstock is being replaced in preparation for the start of TC-10 tank major weld.

A qualification test program for Titan/Centaur vehicles is in progress:

- The Data Acquisition System master data unit and remote data unit qualification articles have started final individual acceptance testing. After completion, the units will undergo qualification testing, which is scheduled to be finished on November 9.
- Fort Worth Division finished three of 12 configurations of the staging severance system design evaluation test.
- The eight-hard-point stiffness portion of the structural test program has been completed at Sycamore Canyon. System anomalies are being resolved prior to reconfiguring the test article for the 22-hard-point stiffness test, which is due to be completed in early November.
- The 22-hard-point modal test has been completed. Combined with the eight hard-point stiffness test, the model for the verification load cycle can be updated.
- The umbilical retract primary disconnect mode testing is complete. Following a successful data evaluation, two tests are planned to verify the secondary disconnect modes.

Ben Wier Appointed Head of Atlas Programs



Ben Wier has been named as Division Vice President and Program Director for the Atlas Programs.

The 33-year GD veteran will be responsible for both vehicle development and vehicle launch services on the Atlas family of vehicles.

Ben's most recent assignment with the company was with Convair Division as the program director for Cruise Missile Production. He has also been previously associated with the Atlas Launch Vehicle Programs as its director.

He received his Bachelor of Science degree in Industrial Engineering from the University of Buffalo. In 1976, he became one of the first civilians invited to the Department of Defense Systems Management College where he completed postgraduate work in Industrial Financial Management.

Currently an Associate Fellow of the American Institute of Aeronautics and Astronautics, he has been a member of the Liquid Rocket Technical Committee, the Support Systems Technical Committee, and later chairman of the AIAA Support Systems Technical Committee. He has chaired various AIAA regional and national conference sessions. In 1977, Ben received the San Diego AIAA Chapter's annual award for "Contributions at the National Level." In 1981, he was recognized by NASA for his contributions to the National Space Programs.

Additionally, Ben belongs to the Air Force Association and the National Management Association

Space Briefs

The Vandenberg Chapter of NMA is presenting "Living on Other Worlds" by Dr. Bruce Cordell, manager of Mars-Lunar Advanced Research Studies, on September 14. For more information, call Kathy Rodriguez at 65056. . . . Congratulations to **Jany Sollenberger**, who received the Outstanding Small Disadvantaged Business Effort Award for the second quarter. . . . VAFB had their company **Family Fun Day picnic** for employees and their families on August 12. Over 300 gathered at Los Alamos County Park to join the fun. . . . Congratulations to **Stuart Sutherlin**, July's employee of the month for Quality Assurance. . . . VAFB SSD **Contrib Club** presented a \$200 check to Dr. George Richard Fischbeck, weather forecaster on KABC-TV Channel 7's "Eyewitness News." He accepted the check on behalf of the Alisa Ann Ruch Burn Institute. . . . Congratulations to **Cecil Norwood**, August's employee of the month for Quality Assurance. . . . On August 25, **Configuration Management** had their first Asynchronous Colinear Golf Tourney (ACGT). The winning threesome of the scramble consisted of Jesensky, Brunner, and Astleford with a score of 74. . . . Space Systems **employment** for the week ending September 8 was 4,790.

Ethics Corner

At General Dynamics, the standards of business ethics and conduct are taken very seriously. Because of this, it is important to periodically review some of these issues so that we all have a good understanding of them.

The following are excerpts from the General Dynamics Standards of Business Ethics and Conduct:

Former Government Employees

The company has clear written policies and procedures which govern the conditions of employment of former U. S. government employees and which will affect the duties they perform as employees of General Dynamics.

Technology and Information

The backbone of General Dynamics as a competitive business is our ability to develop and use high technology in day-to-day operations. Failure to maintain control of our technological edge could cause us irreparable harm. As employees, we are all responsible for guarding our technology against unauthorized disclosure. This applies not only to government classified information, but also to proprietary and private data developed or purchased by us or entrusted to us by customers or suppliers. These restrictions apply whether the information is in written or electronic form or is simply known by us as employees.

If you have any questions concerning ethics, please contact Alda Jorgenson at 77447, or call 573-8367 for the Ethics Hotline. All contacts will be kept confidential.

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Margaret Beard, management assistant — work together, to



show the superior products they produce, and to share newsworthy information.

Margaret began her career here four years ago as a temporary working in College Relations, where she was hired on permanently after just two months.

Margaret is now working in the Ethics department assisting Alda Jorgenson, Ethics director. In this role, she helps coordinate monthly program reviews, community relations, and the Community Service Award program. Besides

Community Relations, Margaret also helps with the Ethics program by organizing Alda's scheduling.

Margaret is married and has four children and eight grandchildren.

Recently, Margaret and her husband, Duane, attended two family reunions in Centerville, Iowa, and visited the family farm where she grew up.

— Bill Walker, SDSU Intern

Space Systems Division *Orbiter* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9551
Camille Kahlert, Huntsville	880-0660
Linda Loffredo & Karen Young, Editors	

Research & Engineering Forms Now at Viewpoint Plaza

Engineering Forms (formerly Engineering Supplies) will no longer be stocking forms for Research & Engineering. Effective immediately, Forms Control will be the source for all engineering and division forms.

Forms Control is located at Viewpoint Plaza, building 2, first floor in the southeast wing.

For assistance in placing your orders, contact Terry Banderas or Lucille Sebold at 66749.

General Dynamics Space Systems is an equal opportunity employer.

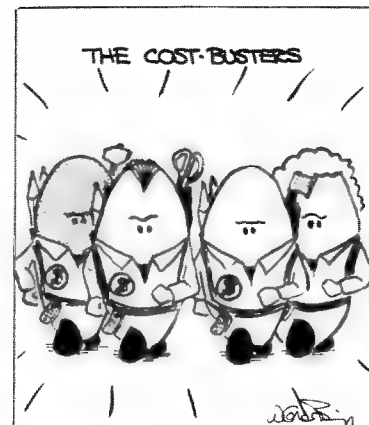
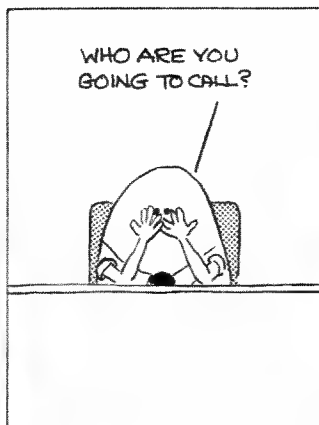
Family Care Workshop Coming to Lindbergh Field

A family care workshop entitled "The Four C's to Successful Child Behavior Management: Communication, Consistency, Choice, and Commitment" will be held on October 5 at Lindbergh Field in building 4's auditorium.

The workshop will be held from 3:45 to 5:15 p.m. It is free and open to all GD employees.

To register, Call Ellen Mathews at 39915.

GRANTLAND®



ORBITER

GENERAL DYNAMICS SPACE SYSTEMS DIVISION

October 6, 1989



General Dynamics' President and Chief Operating Officer Herb Rogers throws out the first ball, giving Ed Squires, vice president of Production, the ol' slam dunk.



Santa Maria Barbecue Celebrates 17th Season in Style

A warm, sunny day welcomed over 1,100 Space Systems employees and their families to CRA Missile Park Saturday, September 22, for the 17th annual Santa Maria Barbecue.

This year's host, Roy Bennett, division vice president of Material, made sure all of his guests had a good time. He arranged bingo contests, staged shootouts, a diaper derby, horseshoes, tug-of-war, and the party jump. And no picnic would be complete without western marshals, train rides (complete with holdups) and the carousel.

"The Good Ole Boys" provided the country-western music while such VIPs as Bernie Kulchin, Ron Stoneburner, Ed Squires, Dave Wolff, Roy Bennett, Barry Long, Dave Croan, Tim Goffar, Bob Risley, and Jerry Brown took turns at taking dips in the dunk tank. GD's President and Chief Operating Officer Herb Rogers threw out the first ball, dunking Ed Squires.

Chuck Harter and Tom Heter were in

charge of the Vandenberg crew's famous feast that included the traditional prime beef barbecued over a Santa Maria red oak fire accompanied by all the fixin's.

Octavio Mamom, an engineer in Material and Processes Engineering, won the grand raffle prize to view the AC-69 launch at Cape Canaveral Air Force Station in June. Marilyn Bosworth, staff secretary to Don Moore, division vice president of Quality Assurance, will also get to witness the launch as a reward for selling the most raffle tickets.

Raffle ticket sales netted over \$3,000, which will go toward the National Management Association's Scholarship Fund.

Profits from the snowcone and cotton candy booth will go to the Association for Retarded Citizens, whose members ran the popular stand.

The entire day was a big success. Folks are already whetting their appetites in anticipation of next year's 18th annual Santa Maria Barbecue!

Chairmanship to Change Hands January 1, 1991

Pace Announces General Dynamics' New CEO

Stan Pace, chairman and chief executive officer of General Dynamics Corporation, has announced that William A. Anders will join the company on January 1, 1990, as vice chairman and will become chairman and chief executive officer on January 1, 1991, when Mr. Pace retires.

Mr. Anders, 55, is currently senior executive vice president - Operations and a director of Textron, Inc., in Providence, Rhode Island.

Pace, who has been chairman and CEO since January 1, 1986, said that Anders' military, government, and industry background "represents an ideal fit with the company's management style and philosophies, and many of its key government production programs."

A 1955 graduate of the U. S. Naval Academy, Anders was a U. S. Air Force pilot until 1963, when he was selected by NASA as an astronaut for the manned spacecraft program. He was one of the three crew members aboard the 1968 Apollo 8 lunar mission and served as backup pilot for Apollo 11, the first lunar landing.

The recipient of the Wright, Collier, Goddard, and Arnold flight awards, Anders received an advanced degree in 1963 from the USAF Institute of Technology at Wright-Patterson Air Force Base in Ohio. A retired general in the Air Force Reserve, he holds five world flight records.

Photos by Perry Rasmussen



"When the F-8 payload rose from the earth's surface and orbited the skies to serve the fleet she left behind, she said good-bye to the best launch team earth has ever known."

—Test Conductor
Sy Baker

"This AC-68 launch was truly a team effort. At CCAFS, members of the Titan/Centaur crew worked closely and tirelessly with our Atlas/Centaur crew during AC-68 processing and launch."

—Launch Director
Frank Watkins

"We had some difficult times to overcome before this launch. The combination of old and young people jelled at the right time. This was a real team effort from the top man to the littlest guy, including those in California. We couldn't have done it without them."

—Senior Launch Service
Technician Jerry Leonard

"Waiting for this launch has been a very long, drawn-out process. It took lots of hours to get the pad ready for use. I'm real proud of the new people I've trained; they've not had a lot of experience and still did a great job."

"Everybody did a tremendous job in getting it together."

—D. L. Smith, group leader,
Quality Assurance Complex
Inspection for Atlas Programs

"This was my first time as a blockhouse monitor, which was very exciting. Being an integral and active part of a very professional launch team was much better than I had anticipated. I've worked on other teams, but GDSS is the best!"

—Senior Launch Service
Technician Mike Holmes

From Cape Canaveral to AC-68's Launch Team

As AC-68's launch window approached its final minutes at Cape Canaveral Air Force Station, the crowd anxiously waited to hear if weather conditions would postpone liftoff yet another day.

Suddenly, the viewing stands filled with excited applause as it was announced that countdown would take place as scheduled on that early morning, September 25.

Then, at precisely 4:56 a.m., a mere minute before the window would close, the pre-dawn sky erupted into an orange glow as the 137-foot-high rocket roared into the atmosphere.

As the Atlas/Centaur 68 propelled the Fleet Satellite Communication's system into earth's geosynchronous transfer orbit, the joint government/General Dynamics launch team spoke of the end of an era. The AC-68 vehicle was the last in NASA's inventory of Atlas/Centaur rockets.

The \$125 million FLTSATCOM is part of the versatile military satellite communications systems shared by the United States Navy, Air Force, and Department of Defense. Manufactured by TRW, it provides reliable, secure communications for ships, submarines, and planes, as well as military ground units throughout the world.

"The launch team here at the Cape is at the end of the production line enjoying

the glamorous rewards of the launch business. We know, however, that the successful launch was due to a total GDSS team effort, and we'd like to thank all the team members



in San Diego. The entire process has to be correct to produce a successful final outcome."

—Launch Director Frank Watkins

The system is also used by the Presidential Command Network, providing instant communications between the President and commanding officers in the United States and remote units stationed anywhere in the world.

The spaceborne portion of the system consists of a global network of FLTSATCOM satellites orbiting the earth once every 24 hours at 19,324 nautical miles above the equator. Traveling in geostationary orbits at a speed equal to that of the earth's rotation, it maintains a constant relation to points on earth.

The first stage of the vehicle, an Atlas G, was the largest element in the 360,856-pound rocket stack. This stage provided approximately 438,000 pounds of thrust and carried approximately 303,000 pounds of RP-1 fuel.

The interstage adapter (ISA) mounts the Centaur D1-A atop the Atlas G. It releases the Centaur during a coast phase in space by detonating a shaped charge assembly that separates the ISA just below the Centaur's attachment point.

The Centaur upper stage, the world's first hydrogen-fueled rocket, was powered by 25,400 pounds of liquid oxygen, the fuel's oxidizer, and 5,200 pounds of high-energy liquid hydrogen. Its two Pratt & Whitney engines are restartable in space and produce 32,815 pounds of thrust.

There was a definite feeling of pride in the air following the flawless launch.

"We had a perfect mission this morning," said Lisa Malone, Kennedy Space Center spokeswoman.

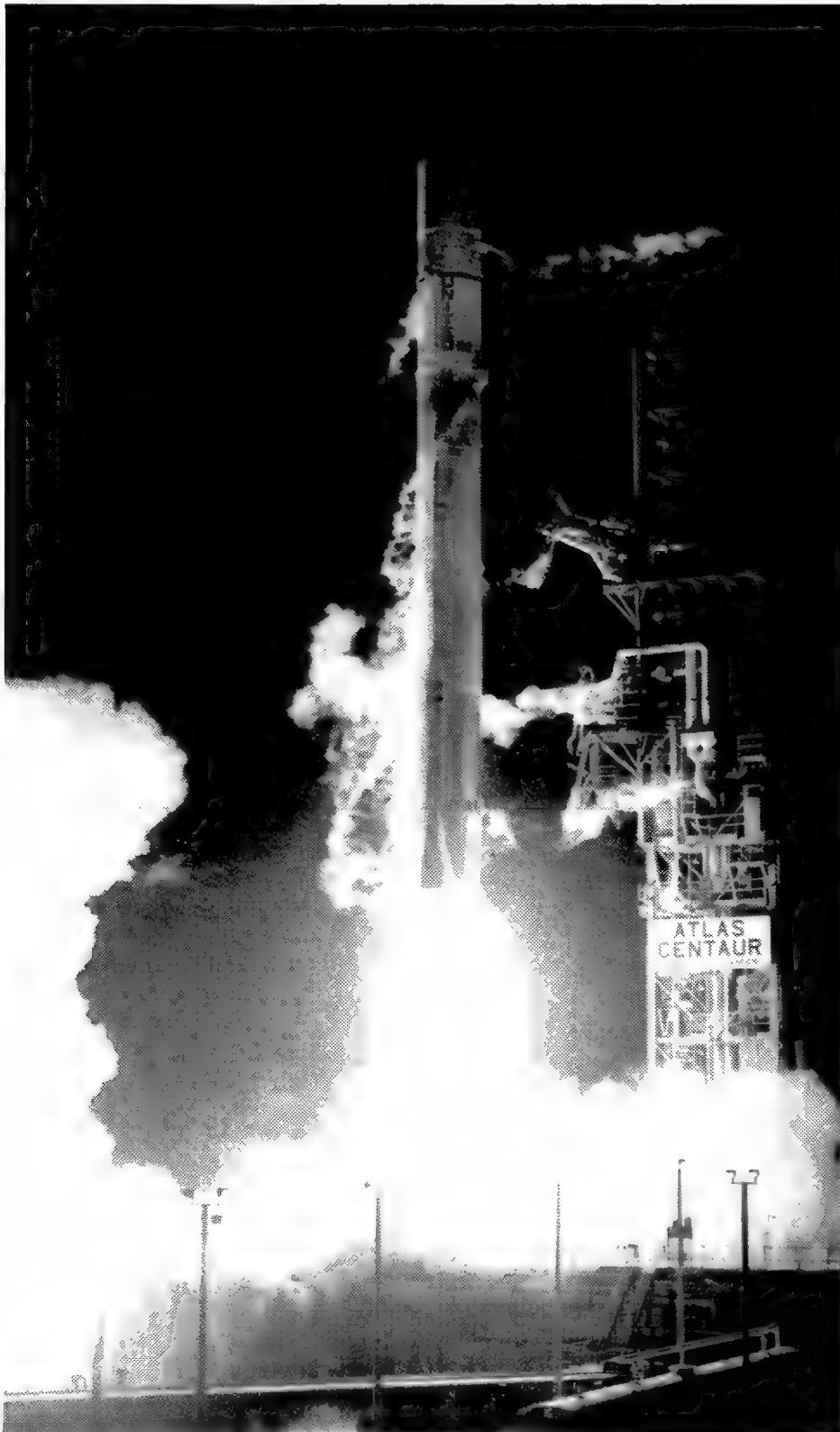
Dennis Dunbar, vice president of Programs and Technical Operations, is looking toward a bright future for NASA and GDSS.

"This launch was just a bridge to greater and better accomplishments for NASA and GDSS working together."

Special thanks to CCAFS Reporter Rita Jackson for her contributions to this coverage of the AC-68 launch.

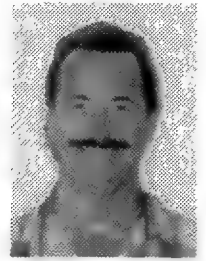
10/6/89

o San Diego to Nasa; proved To Be The Best



The unmanned AC-68 rocket journeys toward space in its mission to place a military communications satellite into orbit.

As one of the three safety engineers at Cape Canaveral Air Force Station, Tony Barnini had an integral role in the AC-68 launch September 25.



Tony was a member of the launch's Red Crew comprising of GDSS safety and security personnel, the base support environmental health agency, and the Air Force's fire control unit.

The Red Crew's job was to wait at the fallback zone and return to the pad right after liftoff to ensure safe conditions for the engineers and technicians.

A one-year employee of General Dynamics, Tony was involved with the launch process from beginning to end. He provided safety support from the vehicle's arrival to its transportation, erection, stacking, and testing.

He also helped monitor the loading of the RP-1 fuel into the Atlas and the installation of range destruct explosives. The ordnance is needed on board in case the spacecraft veers off course and needs to be destroyed.

Fourteen hours before liftoff, Tony provided support for the mobile service tower rollback, which exposed the AC missile, readying it for launch. Just before departure, the safety engineers cleared the pad of all personnel.

Viewing the launch from just one mile away gave Tony a panoramic view of the event.

"It was really spectacular seeing it in the dark," he exclaimed. "The launch was so brilliant that it looked like it was day time.

"Everyone in the fallback zone started hootin' and hollerin' which really got my adrenaline going. Just knowing that I was a part of it made it even better. It was a very satisfying feeling."

When Tony is not monitoring exciting launches, he provides safety support for other TC and AC operations. He sees that Air Force and other federal safety rules are complied with and reviews safety procedures. He also supports hazardous operations.

Tony feels good about being part of the GDSS launch team.

"Frank Watkins even came up and shook our hands after the launch. It feels really good to be appreciated."

Women's Opportunities Week Begins October 14

In conjunction with the City of San Diego, the 1,129 women of Space Systems are celebrating Women's Opportunities Week October 14 - 21.

A kickoff social will be held October 13 at the CRA Missile Park from 4:30 to 7:30 p.m. This will be followed by a week of events including seminars, panel discussion, and guest lectures.

The agenda has been divided into three categories: business and community issues, and professionalism. These areas allow employees to explore different avenues of interest such as life management, space basics, and volunteerism.

On October 19, half-hour tours of Building 5's production facility will be offered at 11, 11:30, and noon. Only 20 slots per group are available, so make your reservations now by calling Lisa Lawrence at 65706.



A coast-to-coast ribbon cutting ceremony was held recently for the new General Dynamics Videoconferencing Network. The event took place in St. Louis, with the Washington, D.C., and San Diego locations participating via videoconferencing.

ATTENTION: In preparation for the new office building, the reserved parking area on the west side of KM 26 will be fenced off from October 12 to 15. The reserved parking stalls will be reassigned before then.

Con-Trib Club: Together We Make A Difference

The General Dynamics Employees' Con-Trib Club is holding its annual membership campaign through October 13.

By signing pledge cards and contributing, employees will help provide charitable funds to our community and to co-workers facing financial emergencies.

Mark Moeller is the Space Systems coordinator for the campaign.

Space Briefs

Congratulations to *Orbiter* Editor **Linda Loffredo**. She and her husband, Rick, are proud parents of Nicholas Frank, born September 16. . . . **SSIP changes** can be submitted until November 30 to go into effect January 1. . . . **Finance** held its Third Annual Beach Party at La Jolla Shores on September 16. Titan/Centaur Program Finance defeated Financial Planning in volleyball. . . . Governor Deukmejian has proclaimed the week of October 8 - 14 as **California Aviation-Aerospace Week**. . . The NMA Convair chapter is holding an **Image Update Workshop** on October 10 in the CRA TV Lounge from 5 to 6 p.m. Contact Linda Heida at 75240 for reservations. . . A **Multi-Cultural Fair and Parade** will be held on October 7 from 12 to 7:30 p.m. on Linda Vista Road between Ulric and Comstock streets. . . See your NMA booster for tickets to the **Harvest Moon Honky Tonk** October 14 at The Barn in San Marcos from 5:30 p.m. to midnight. . . **Employment** for the week ending September 15 is 4,813.

1989 Survey of Employees

Your Opinion Counts!

During October, Space Systems employees will have an opportunity to provide input on key issues in our division by participating in the 1989 Survey of Employees.

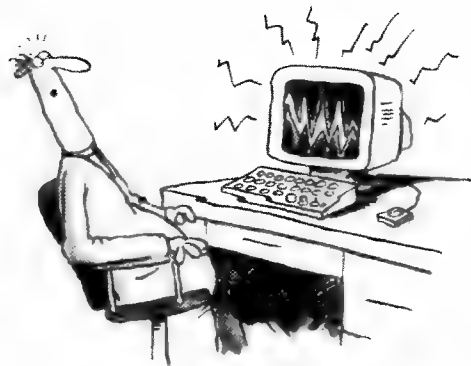
The purpose of the survey, through your participation, is to identify key strengths and concerns at Space Systems in order to improve our working environment.

The survey will cover a range of division and corporate topics. It will take approximately one hour to complete, and anonymity is guaranteed. Several sessions at various locations have been set up to accommodate all employees.

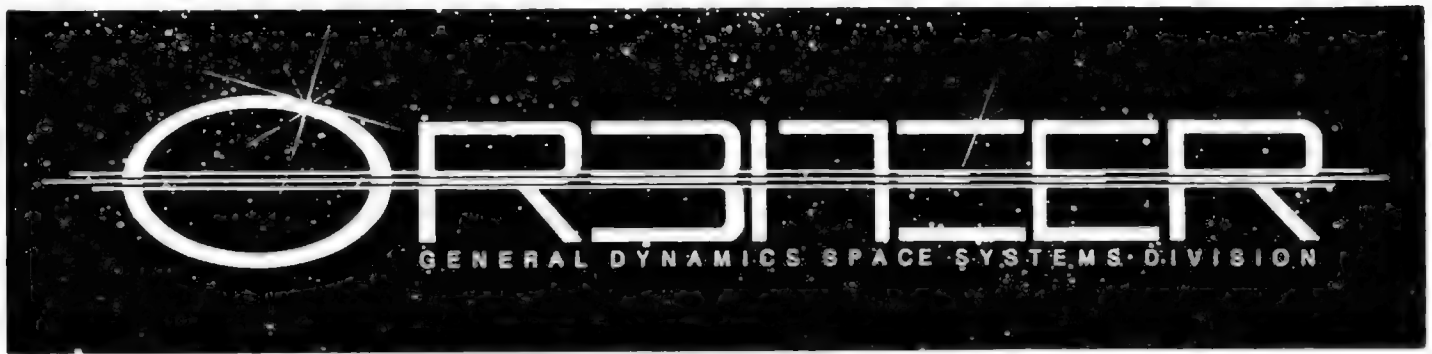
Please remember to participate and **make your opinions count!**

If you have any questions regarding the survey, contact Lisa Lawrence at 65706.

Farcus

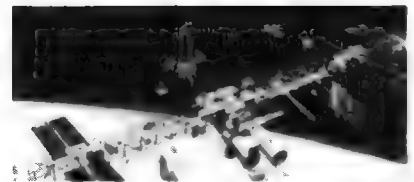


User friendly? Don't make me laugh!
And what do you mean by artificial
intelligence?!



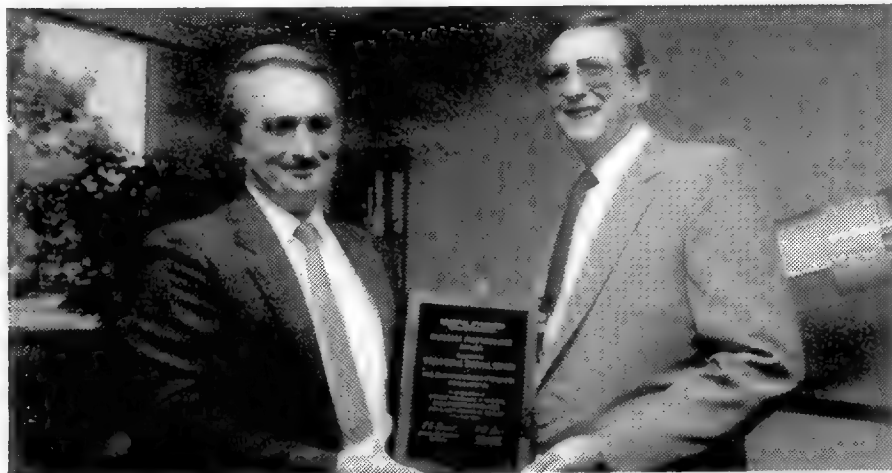
October 20, 1989

How Are We Doing?



Do you ever wonder how we are doing as a division? Here is a report card. This is the first of a series of quarterly reports on the contract activities of Space Systems Division. Included are firm contract signings and losses on new business from June through September 1989.

Program	Contract	Win	Loss
Commercial Launch Services	Orion HISPASAT CONTEL ASC 2 Launch Services G-STAR 4 Launch Services	X	X X X
Contracted Research & Development (CRAD)	Centaur Integration Support Technology Bus/Atlas II Mini-Load Cycle Analysis Superconducting X-Ray Lithography Source Magnet System Centaur Electrical Interface Simulator Survivable Power Subsystem Phase II (Super II) Magnetohydrodynamics Submarine Shuttle-C/Centaur Interface Study Electrodynamic Aerobraking Assist Interim Space Transfer Vehicle (ITSV) Study Exoatmospheric Resources (EARLI) Cryogenic Propellant Depot Study	X X X X X	X X X X X
Advanced Launch System CRAD	Development of Superplastic-Forming Cryogenic Tank Concepts Development & Demonstration of Electromechanical Actuator Drivers & Motors Rocket Engine Condition Monitoring System (RECMS)	X X X	



International Technical Services (ITS) was selected as Space System Division's Small Disadvantaged Business for the second quarter of 1989. Located in Northridge, California, the company provides us with temporary technical personnel. Jim Muir, director of Procurement, presented Lew King of ITS with the award.

More Coverage For Alcohol and Drug Treatment

General Dynamics employees covered by Kaiser HMO or any of the Aetna self-funded plans, now have increased benefits for alcohol and chemical dependency assistance.

The insurance was enhanced to encourage and give support to any GD employee seeking help for an addictive disorder. It was designed to remove the financial burden that often prevents a person from pursuing needed treatment.

Any employee or family member with a dependency problem can take the first step by contacting SSD's Employee

Assistance Program (EAP). A confidential consultation will be provided and direction towards proper treatment will be given based upon the individual's personal needs.

Employees enrolled in a self-funded plan will be reimbursed at a higher level by initiating the treatment process through the EAP.

The EAP treatment provider, National Resource Consultants, may be reached at 291-0330. Questions regarding services may also be directed to Mike Felchlin at 68880.

RETIREES

Thanks and good luck to these Space Systems employees who recently retired:

Frances Anderson, Senior Quality Assurance Specialist, VAFB Quality Assurance, 27 years
Cezar Banks, Senior Project Engineer, Research & Engineering, 32 years
Victor Madrigal, Group Leader, VAFB Calibration Lab, 31 years
John Miller, Senior Project Engineer, Atlas Programs, 33 years
Buddy Oman, Engineering Chief, Systems Analysis, 32 years
George Pastor, Financial Specialist, Finance, 33 years
Michael Torres, Painter, VAFB Launch Operations, 9 years
John Valdez, Missile Mechanic, Production, 48 years
Lyle White, Engineering Specialist, Avionics, 20 years

It's Not Too Late to Make Your Opinion Count!

We have had a great response to this year's Survey of Employees, and there are still several survey sessions available through October 31.

Make-up sessions have also been scheduled October 23 to 27 in the training center, Viewpoint Plaza 2, 3rd floor, room 3. They will be held each day at 7:30, 9:00, 10:30, 12:30 and 2:00.

Two additional make-up sessions will be held in the Kearny Mesa cafeteria on October 30 and 31 at 2:00 p.m.

An outside consulting firm will be compiling and analyzing the data in November and December; we can expect results after the first of the year.

During the first quarter of 1990, we will receive departmental feedback with action planning sessions to follow. These meetings will provide us the chance to work together in presenting ideas and implementing actions to improve areas identified in the survey. This way, the survey becomes an ongoing process for improving our division.

So, please remember to participate and make your opinion count!

PROMOTIONS

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Nanc Anderson-Metz	Ronald Galvan	David Little	Lucille Sevold
Steven Avilez-Sirehla	Tim Gladfelter	Larry McMurtrey	James Seymour
Earl Banas	Karen Hards	Ruben Medina	Donna Sisk
David Bennett	Calvin Harris	Ron Meier	Esther Tachiquin
Michael Brabants	Max Harrison	Carol Mitchell	Randal Thomas
Gordon Brinkley	Virginia Harvey	Jim Muir	Stuart Troxil
Michael Chiara	Jean-Marie Haskell	Edye Oliver	Chris Vannoy
June Clift	Ray Hatcher	Violy Pingol	Jeanne Vaz
Mark Combs	David Holloway	Gary Rankin	Rex Willems
Janice Conner	Charles Hyde	Ricardo Reyes	Fritz Winger
Jim Dennison	Michael Jones	Fred Rochez	Simone Woodin
Ed Dzema	Ann King	Jennifer Roney	Woody Woodward
Larry Foss	Randy Kingrey	Gayleen Sabater	Chris Wright
Sharon Freitas	Sue Kopp	Diana Schukar	Joyce Younger
David Gahan	Fred Kuenzel	Stephanie Selber	

Programs Update

Atlas Programs

AC-68 successfully launched a FLTSATCOM satellite on September 25, placing the spacecraft in a near-perfect trajectory. The spacecraft is now undergoing checkout as it drifts westward toward its orbital station.

Atlas I

The AC-69 propellant tanks continue in major weld. The shipping dates for the Atlas and Centaur tanks to go to the Pressure Pit are October 21 and 27, respectively.

The Centaur tank for AC-70 is being held for major weld fixture. The AC-70 Atlas tank is being delayed due to shortages in forward bulkhead parts.

Heath Tecna, the Jettisonable Insulation Panel vendor, has scheduled flight article delivery for December 28. The first set of flight panels has begun final assembly for AC-69. Space Systems continues to provide on-site production support.

The 24.5 in-graphite helium bottle has passed qualification testing, and the first two production units have been purchased.

Atlas II

Engineering releases have reached 90% of the requirements for the Atlas II flight vehicle nonrecurring program.

The Atlas IIA vehicle has been selected for launch of the Intelsat K payload in December, 1991. This is our first commercial sale of an Atlas IIA vehicle.

Our new fixed foam installation facility has completed a 30% design review. It has become apparent that a downscaling of the facility is required and, as a result, the facility may not be available for the first flight vehicle foam installation. Should this occur, plans are being made to employ the Vertical Assembly Tower for that purpose, as was done for the AC-64 fixed foam test tank.

Titan/Centaur Program

The TC-8 propellant tank assembly has completed wash station. The Forward Adapter flight harness is being reworked to the latest engineering configuration incorporating Pyroshock, Flight Termination System and Wide-Band Instrumentation System modifications and additions. The TC-8 tank is being proof pressure tested in the Kearny Mesa Pressure Pit before final assembly of subsystem assemblies on the propellant tank.

VAFB has completed vehicle harness assemblies on TC-9. TC-9 propellant tank major weld activity continues at Plant 19.

TC-10 major weld has started utilizing the new headstock and drive system.

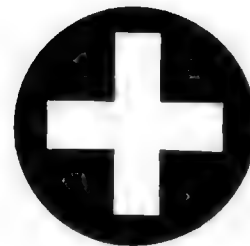
The Data Acquisition System qualification test program continues to progress. The Master Data Unit and Remote Data Unit qualification articles have completed vibration, shock and temperature testing. Electromagnetic compatibility and explosive atmosphere tests remain.

TC-8's Data Acquisition System has completed assembly and is undergoing the final manufacturing verification test.

The Titan/Centaur test tank is being configured for 22-hard-point testing, with final deflection and strain gauge instrumentation being installed. The first of the four tests is scheduled to begin in mid-October.

The Titan/Centaur Umbilical Retract Test program was successfully completed with the September 29 completion of the last secondary mode disconnect test.

Get Acquainted With Safety



By Bill DeGarmo

Although Space Systems Safety and Health department is a little over one and a half years old, you may not yet be acquainted with it.

Infancy is no excuse, and we would like to introduce ourselves so you will know where we are and how to reach us if you need our assistance.

Our office is located at Kearny Mesa building 26, first floor, column G-15. And we are here for good after moving, and moving, and moving. . .

Who are we?

Manager, Safety and Health: Bill DeGarmo, 88555

Human Resources Assistant: Jo Thomas, 89107

Senior Safety Engineer: Walt Zukowski, 39181

Industrial Hygiene Specialist: Elaine Briggs, 39125

Industrial Hygienist: Sharon Orlando Blunden, 75286

Our intent is to strive to prevent accidents. We want to be proactive, and can be with your help.

If you have a safety concern, take it to your supervisor and if he/she needs our assistance, we will be happy to oblige. In most cases your supervisor will be able to resolve your safety concerns.

Remember, safety is everyone's responsibility.

SPACE BRIEFS

The CRA Health Fitness Center will offer a complete **blood screening** at Kearny Mesa on October 25 and 26 from 6:15 to 9:00 a.m., and at Lindbergh Field on October 25 from 6:15 to 9:00 a.m. Call 39921 (KM) or 24736 (LF) for more details. .

. . . Congratulations to **Evelyn Ward**, selected as Quality Assurance's Employee of the Month for September. .

. . . **Advanced Upper Stages (AUS)** won the Atlas Cup Golf Championship, held September 24 at Torrey Pines. AUS beat two teams from Material and Planning. . . . Congratulations to **Carolyn Schwartz** who was recognized as the Move Safe Employee of the Quarter for her efforts to make the Move Safe Program successful. . . . The **GD Weight Watchers at Work** program will begin October 24. For more information, call 560-0602. . . . A **CPR** class will be held October 25 and 26. . . . DSD/WC Training & Development is offering a variety of **computer classes** from 4:45 to 7:45 p.m., beginning October 23. Please call 33930 for more information. . . . A series of three **Successful Child Behavior Management** workshops will be held at Kearny Mesa from 4:45 to 6:15 p.m. beginning October 24. Call Ellen Mathews at 39915 to register.

Space Systems Co-Sponsors KPBS NOVA Series

Space Systems Division, on behalf of its employees, is co-sponsoring the 1989 – 1990 season for all San Diego broadcasts of the award-winning science documentary series "NOVA."

According to Tom Donovan, director of Marketing Communications & Proposal Development, "NOVA has a wonderful reputation, earned during 16 years of outstanding programming, for bringing the world of technology and science into our homes to educate, stimulate, challenge and encourage each of us in so many ways."

The opportunity to co-sponsor the highly-acclaimed show developed as Donovan and Mike Smith, Chief of Marketing Communications, were

searching for division image and identity advertising.

The educational value of the popular show was a strong factor in the decision to co-sponsor it. For many years, educators have recognized NOVA for its unique style of programming as an effective way of instilling early interest in the sciences among students.

Space Systems has close ties with many San Diego schools and education is essential to our division's goals.

Donovan hopes all Space Systems employees will feel good about this valuable contribution to our community.

"We want everyone to share our pride in sponsoring this quality program on behalf of the San Diego community.

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Richard Pollock, metal fitter/tank fabricator — work together, to show the superior products they produce, and to share newsworthy information.



As a lead mechanic at Plant 19, Richard is responsible for training new employees in procedures for spot welding, fitting parts for fusion welding, drilling, and blue print reading.

Richard enjoys being innovative in making tooling aids, creating employee suggestions, and solving production problems. He enjoys challenges and is not afraid to meet them head on.

Before joining General Dynamics in July, 1988, Richard spent 11 years as a mechanic and service manager for Kearny Mesa Yamaha.

A bicycling enthusiast, Richard usually pedals 300 miles a week. His other interests include surfing and karate. He has been married seven years to Edna, who works at Plant 19's blue print crib.

—Bill Walker, SDSU Intern



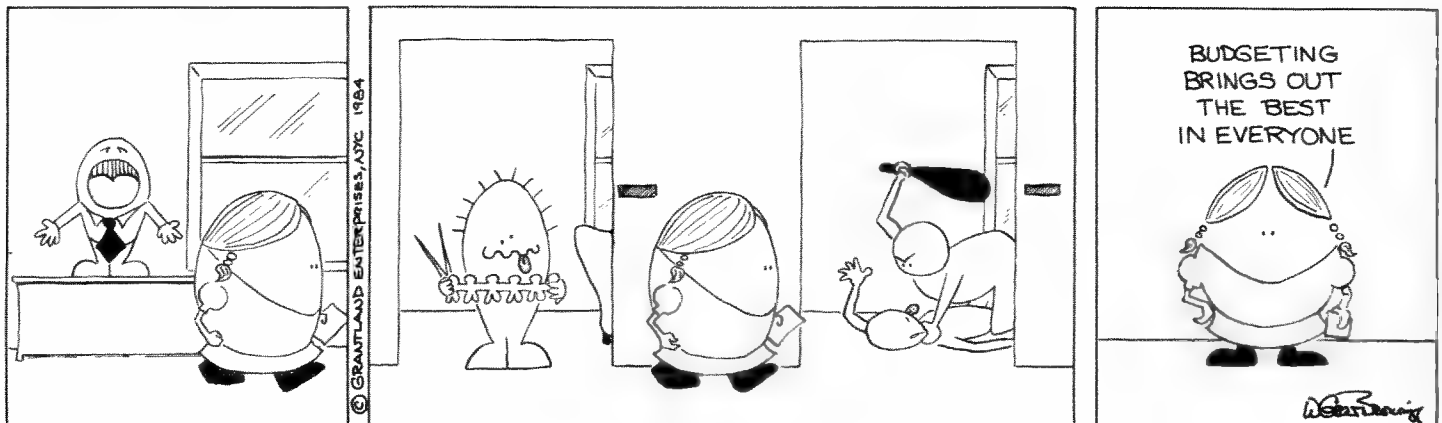
Rocket Research Company representatives proudly accept the GDSS Manufacturing Supplier award for the second quarter. RRC uses the Statistical Processing Control and MRP II programs to assist them in building quality products to meet our schedule.

Space Systems Division *Orbiter* is published every other Friday for employees and their families. Items of interest to readers should be addressed to *Orbiter*, Mail Zone 22-7000 (Post Office Box 85990, San Diego, CA 92138). Telephone (619) 573-9373.

Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9551
Camille Kahlert, Huntsville	880-0660
Karen Young, Editor	

GRANTLAND®





November 3, 1989

Four Key Appointments Announced

Four key appointments have been announced at Space Systems and the Commercial Launch Services subsidiary to strengthen both organizations for the competitive military and commercial space business.

At Space Systems, Marty Winkler has been named division vice president and deputy general manager, Bob DiNal has been appointed division vice president of Research and Engineering, and Ben Wier has been named division vice president and program director of Atlas programs. Commercial Launch Services has appointed Charlie Lloyd vice president and managing director.

Marty Winkler had been division vice president of Research & Engineering at Space Systems since 1986. He joined General Dynamics in 1964 as an associate engineer with the former Astronautics Division, later serving in a number of engineering management positions for Convair, including engineering chief for the air launched cruise missile program, manager of cruise missile avionics, director of

avionics, Atlas/Centaur program director and Shuttle/Centaur program director. Marty holds a bachelor's degree in electrical engineering from Cornell University and a master's degree in aerospace sciences from the University of California San Diego.

Charlie Lloyd had been division vice president of Finance at Space Systems since 1986. He joined General Dynamics in 1980 as manager of Financial Planning for Aerospace at the St. Louis corporate headquarters and was named corporate director of Financial Planning in 1981. He became division vice president of Administration and controller at General Dynamics Services Company in 1984. From 1975 to 1980 he was a member of the finance staff at Ford Motor Company.

Charlie received a bachelor's degree in finance from Virginia Tech and a master's degree in finance from the University of Michigan.

Bob DiNal joined the company in 1963 as an associate engineer with the

former Astronautics Division. At Convair, he advanced through a series of engineering assignments, including program engineering chief, manager of Avionics and director of Avionics. He transferred to Space Systems in 1986 as director of Avionics.

Bob received a bachelor's degree in electrical engineering from Rensselaer Polytechnic Institute and a master's degree in electrical engineering from San Diego State University.

Ben Wier recently transferred to Space Systems from Convair where he had been program director of cruise missile production since 1982. He joined the company in 1956 as a flight test engineer and has held several functional group and program management positions including manager of Atlas programs, manager of space shuttle programs, program director for Atlas and director of Productivity.

A graduate of the University of Buffalo, Ben received a bachelor's degree in industrial engineering.



Marty Winkler



Charlie Lloyd



Bob DiNal



Ben Wier

Uncertain Era Awaits General Dynamics' New Chief Executive Officer



By Debra Polsky,
Staff Writer

WASHINGTON — As the new chief of General Dynamics Corporation, William Anders will face a difficult political and fiscal environment characterized by few new military programs and increasing regulation. Yet senior defense industry officials say Anders, Textron's senior executive vice president for

operations and a former astronaut, is ideally suited to handle the job.

"I think the industry faces a lot of challenges," says Don Fuqua, Aerospace Industries Association president. "I think [Anders] has a broad background that will help him succeed [in the current climate] and try to restore confidence in the industry."

Anders, 55, was named last Wednesday to succeed Stanley Pace as chairman and chief executive of St. Louis-based General Dynamics Corp. He is scheduled to join General Dynamics January 1 as the vice chairman and take over the company's top two jobs when Pace retires one year later.

A former U. S. Air Force test pilot, Anders also headed the Atomic Energy Commission (later renamed the Nuclear Regulatory Commission) from 1973 to 1976 before serving as the U. S. Ambassador to Norway.

In 1977, Anders joined General Electric Co., working first as vice president and general manager of the nuclear energy products division and later in the aircraft equipment division.

Pace got to know Anders while the two men worked on the executive committee of the Aerospace Industries Association, a board of eight senior corporate officials who meet monthly to discuss issues affecting the industry and set the agenda for the organization.

"He impressed me as being a man that . . . didn't feel compelled to state his opinions on every subject," Pace says. When Anders did speak, he "was quite knowledgeable and had a contribution to make."

Pace says Anders demonstrated "a great deal of stability, intelligence, alertness and sensitivity" to issues affecting the defense industry.

Fuqua agrees, calling Anders "a person of vision and leadership."

Pace had hoped to find his successor within General Dynamics; however the corporate board of directors also encouraged him to consider individuals outside the company. For more than four years he has evaluated people inside the company, moving some people into new jobs to demonstrate their talents.

"We compared the outside candidates with those inside . . . and concluded that the man best suited for this company at this point was Bill Anders," he says.

Anders' immediate challenge as he takes over the nation's

third largest government contractor will be to continue delivery of products to the military that meet cost, schedule and performance requirements, Pace says. However, he also faces a difficult political and regulatory climate.

When Pace joined General Dynamics in 1985, the company's defense business was "in an outstanding position with increasing sales and profits, good cash flow and fine balance sheets," Pace says.

In addition, General Dynamics was building major weapons for each of the military services, including the Air Force F-16 fighter, the Army's M1A1 main battle tank, and the Navy's Trident missile and SSN-688 submarine.

"In the intervening four years, the environment of the defense industry has not been as good," Pace says. "The defense budget has gone down in real terms for four years. The so-called procurement reforms have had a negative affect on cash flow and risk."

As a result, he says, the company's profits have not grown as quickly as they did during the early 1980s and the corporate cash flow has not been as strong as it was before.

Nevertheless, General Dynamics is working on a number of new programs, including the Advanced Tactical Fighter for the Air Force and the Navy's Advanced Tactical Aircraft. The company also announced a \$28.8 billion contract backlog recently, a corporate record.

For the future, Pace says Anders should continue to participate in any new programs that come up, although "there probably will be fewer than before." He said Anders should "work to swing the pendulum back" from recent reforms and return it to an environment that's more profitable for the defense business.

Correction: An error by omission occurred in the October 20 issue of the *Orbiter*.

The report card on Space Systems contract wins and proposal losses did not include Commercial Launch Services' UHF Follow-On contract. This is one of our biggest wins to date, representing up to ten launches of the Navy's UHF satellites.

It should also be noted that we won both the Contracted Research & Development Centaur Integration Support and the Magnetohydrodynamics Submarine Propulsion System contracts.

An Ethics Reminder

"Your Values, Our Values"

Resolving Ethical Dilemmas

- | | | |
|--|----------------------------|---------------|
| Step 1. Recognize dilemma | Step 2. What are the facts | |
| Step 3. Options? | Step 4. Pass the tests? | |
| * Legal? | * Right? | * Beneficial? |
| Step 5. Need more information or help? | | |
| Step 6. Decide and act | | |

Need Help? See your supervisor or call: 573-8367

Division Ethics Hotline

Programs Update

Superconducting Super Collider (SSC)

On September 29, President Bush signed a congressional bill for \$225 million in funding for fiscal year 1990 for the SSC project. This was the first bill to be signed by the President, that indicates his high priority for SSC.

The funds include a construction start for the project facility, which will be located in Waxahachie, Texas.

The Secretary of Energy has created an Office of the Superconducting Super Collider (OSSC) within the Department of Energy. DoE and the Universities Research Association, the management and operating contractor for the SSC laboratory, have selected Lockheed Corporation as the winner of the Systems Engineering and Integration contract.

GDSS has chosen Hammond, Louisiana, as the site of our magnet manufacturing facility.

Advanced Upper Stage (AUS)

The AUS team has been defining a new high-energy upper stage system and operating concept for use with the Advanced Launch System (ALS). The work is being done under contract with the Air Force Space Systems Division Upper Stage Program Office, headed by Colonel Norman Buchanan.

The initial study effort is nearing completion, with all technical objectives achieved. The next phase of work will be competed for next year, with a contract award expected by the third quarter.

NASA Advanced Space Transportation Systems (ASTS)

In response to President Bush's commitment for the U. S. to return to the Moon and then embark on a manned exploration program to Mars, our Space Transportation Infrastructure Study team temporarily moved to Huntsville to provide support while NASA's Marshall Space Flight Center conducted a "skunkworks" activity.

NASA is finalizing its 90-day study for Vice President Quayle. The Vice President will then utilize the National Space Council forum to evaluate and expand on these recommendations in order to formulate the specific aspects of the program that the U. S. will follow.

Security Officers — They're Here for *Your* Benefit

Security officers are as much a part of Space Systems as Atlas launch vehicles.

Each day almost 5,000 Space Systems employees must go through security gates manned by these officers. It is their job to provide a safe and secure working environment at Space Systems by controlling access of people and materials that do not belong here.

These security officers are dedicated professionals who understand what is required to create and maintain safety and security. A major portion of this responsibility includes inspections, and they have been instructed to look at all hand-carried containers entering and leaving the facility. This includes all lunch containers, briefcases, packages, backpacks, string bags, gifts, styrofoam coolers, tool boxes, purses or anything else which could be used to transport materials.

You may not have realized that the



Security Guard Dan Wisneski inspects Pat Steward's papers

security post is the primary stopping point for such things as narcotics, firearms, and explosives entering the Space Systems facility. Therefore, it is crucial that all hand-carried items are thoroughly checked by security officers on duty.

The security officers who stand the post at your building deserve your patience and understanding in this important matter. They are relying on you to do your part so they can continue to provide the safe, secure working environment to which Space Systems employees have grown accustomed.

Reach Out to Our Neighbors

The recent earthquake in the Bay Area has affected thousands. Some of those people are friends and relatives of General Dynamics employees. We wish for them a speedy return to normalcy and hope they are safe and secure.

Fortunately, we have an opportunity to reach out and help our neighbors. Employees who wish to contribute to the disaster relief through the American Red Cross can be assisted with the General Dynamics Matching Gifts Program in which the company will match every dollar contributed (\$50 to \$5,000). Matching Gifts forms are available by calling Margaret Beard at 39274. Make your checks payable to: American Red Cross Disaster Relief — SF earthquake. Mail your check and Matching Gifts form to: American Red Cross, 3650 Fifth Avenue, San Diego, CA 92103.

SPACE BRIEFS

NMA is holding a **retirement planning seminar** November 14, 4:30 to 6:00 p.m., in the Century Park II Titan/Centaur MIC room. Call Rich Golden at 78149 for reservations. . . . Congratulations to **Jack Smothers** of Graphic Services. He recently ran the St. George Marathon in Utah, finishing second in his division. . . . A special presentation, "**Strategies for Manned Lunar and Mars Exploration**," by Dr. Bruce Cordell will be held November 8 at 7:00 p.m. at the Tierrasanta Public Library. . . . NMA's "**Developing Employee Performance**" will begin November 13. Call Kent Ellis, 75170, for reservations. . . . A **Paris Air Show** film will be shown November 13 in the RTDS conference room, KM 26, first floor, at 11:00 a.m. . . . **Employment** for the week ending October 20 was 4,847.

Earthquake Preparedness — Be Ready, Be Smart!

The earthquake in the San Francisco area reminds us that this same kind of tragedy could happen in our city.

We all need to reexamine what steps should be taken in the event of an earthquake in San Diego. In doing so, every employee should review the recently distributed booklet "In Case of an Emergency," which states the following:

Earthquakes strike without warning. They range in intensity from slight tremors to major shocks and can last a few seconds up to several minutes. After a major earthquake, less violent "aftershocks" usually follow. Most earthquake-related injuries occur when people are hit by falling debris.

Therefore, when a quake hits, do not immediately rush outside. Instead:

During an Earthquake

- * *Remain calm. Do not run or panic.*
- * *If indoors, stay where you are. Take cover under a desk, in a doorway or against an inside wall.*
- * *Keep clear of glass windows and doors, unanchored machinery or equipment and tall objects such as shelves or file cabinets.*
- * *If in an elevator, exit and remain on the nearest floor.*
- * *If outdoors, move quickly to an open area — away from buildings, power lines and trees.*
- * *If in a moving vehicle, drive away from underpasses and overpasses, pull over to a safe spot and stop. Stay inside the vehicle.*

After an Earthquake

- * *Check for injuries among fellow employees and notify the Medical Department. Do not move seriously injured employees unless they are in danger of further injury.*
- * *Check for fires and fire hazards, especially gas leaks and damaged electrical wiring. Request the Maintenance Department to turn off main valves and switches as necessary. (These assignments are to be accomplished by qualified personnel only.)*
- * *Do not use elevators. If you're in an elevator, exit at the nearest floor.*
- * *Notify the Fire Department as necessary to report medical or fire emergencies.*
- * *If conditions warrant evacuation, proceed with caution to your assigned evacuation assembly area stated in the "In Case of an Emergency" handbook.*

For further information on earthquake procedures, first aid and survival, please refer to your 1989 - 1990 Pacific Bell White Pages, pages B9 to B12.

If you did not receive the "In Case of an Emergency" handbook, contact Jo Thomas at 39107.



The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Luci Bell, material estimator — work together, to show the superior products they produce, and

to share newsworthy information.

Luci came to Space Systems almost two years ago with a business administration degree from Northern Arizona University. In Contracts & Estimating, she plays a very important role in the contract proposal cycle by developing material costs for purchase parts, raw materials, and subcontract work, as well as parts and services from other GD divisions.

Luci also serves on a number of committees devoted to making our working environment more efficient and pleasant. She finds it very rewarding to be so involved with the issues and people in our division.

A lover of the outdoors, Luci enjoys cross-country skiing, wind surfing, and camping. She also likes to cook and do crafts.

One of Luci's main goals is to one day serve her church in a foreign mission.

— Bill Walker, SDSU Intern

New Graphic Services Info File OnLine

Have you heard?

IRM Graphic Services is your Space Systems one-stop shopping service center for graphics, electronic publishing, editing, management systems, and forms management. All division employees can now discover just how easy and convenient this is.

The EM/OS shared information file called [SS_GRAPHIC SERVICES] describes services provided, the principal contact(s) for each service, and their telephone numbers, suggested turnaround time, and billing procedures.

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Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9551
Camille Kahlert, Huntsville	880-0660
Karen Young, Editor	

Farcus



© Farcus Cartoons, 1987

Can't you file a grievance like everyone else?

Correction: In the "Get Acquainted with Safety" article, printed in the October 20 *Orbiter*, two phone numbers were wrong. Bill DeGarmo's number is 38555 and Jo Thomas' number is 39107.

Also, Randy Vandegrift, Industrial Hygiene Specialist, was not included. His number is 75223.



November 17, 1989

Atlas' First Commercial Launch Set for June, 1990

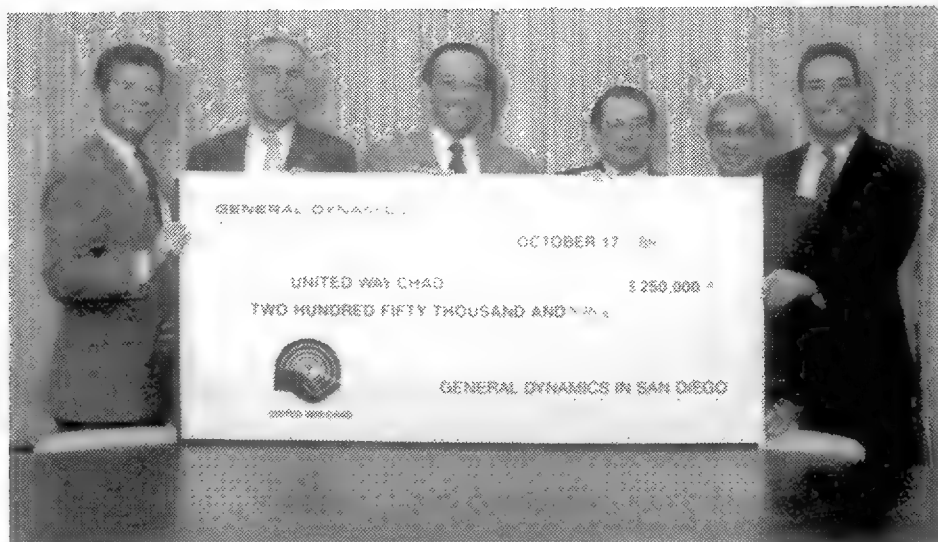
General Dynamics and NASA have signed a launch services contract for the Combined Release and Radiation Effects Satellite (CRRES) scheduled to lift off on an Atlas launch vehicle next June from Cape Canaveral Air Force Station.

According to Ron Stoneburner, vice president of Contracts and Estimating, "The contract agreement represents an innovative, cooperative barter arrangement between NASA and General Dynamics. We will provide launch services for essentially no cost to the government in exchange for title to parts and tools from NASA's completed Atlas/Centaur and Shuttle/Centaur programs."

The hardware, which otherwise might have been sold for scrap, provided the equivalent launch services value of approximately \$64 million.

Launch of the joint NASA and Department of Defense CRRES spacecraft will be the first commercial launch for the General Dynamics Atlas. The Atlas I will lift off from Complex 36B at CCAFS, sending the 3,758-pound satellite into a highly elliptical transfer orbit. CRRES will study the interaction of the ionosphere and magnetosphere and the effects of space radiation on microelectronic components.

Atlas commercial launch services are marketed by the General Dynamics Commercial Launch Services Inc. subsidiary. The launch vehicles are produced by the Space Systems Division of General Dynamics.



Representatives from General Dynamics' San Diego divisions present United Way/CHAD with a \$250,000 corporate gift. Attending the ceremony are: (from left) Dawson Dowty, president of the United Way; John McSweeney, Convair general manager; Glen Estell, United Way's general campaign chairman; Lou Palmer, director of Operations, DSD-Western Center; Bernie Kulchin, GDSS division vice president of Human Resources; and Paul Davis, Community Relations, Electronics.

General Dynamics Donates Quarter Million to United Way/CHAD

General Dynamics' San Diego divisions recently presented a corporate gift of \$250,000 to the 1989 United Way/CHAD campaign.

Convair General Manager John McSweeney presented the check on behalf of all the General Dynamics San Diego divisions to Glen Estell, United Way's general campaign chairman and IBM branch manager. Dawson Dowty, United Way president, Joe Passaretti, vice president of Campaigns, and representatives from the divisions

attended the check presentation ceremony.

"With all of the budgetary constraints in the defense industry, we are pleased that we were able to sustain our level of contribution," said McSweeney.

This is the second consecutive year General Dynamics has contributed \$250,000 to the campaign.

"Thank you for this generous contribution," said Estell. "United Way/CHAD depends on General Dynamics, and you never let us down."

PROMOTIONS

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Genene Aberin	Leon Lavergne, Sr.
Ruth Abram	Douglas Lebo
Norbert Acuesa	Marilyn Lewis
Jovan Ardeljan	Maggie Lima
Philip Armstrong	Nancy Linstead
Michael Attard	Doug Mazza
William Barton	Lori McDerby
Margaret Bjarkman	Jane McKee
John Boerlin	Jennifer Meehan
Oscar Bojorquez	Daniel Miller
Le Shema Brandon	Nancy Morris
Kenneth Brevig	Brian Niznik
Borden Bruce	Jim Nunnally
Kris Buitenhak	Tim O'Leary
Ed Christiansen	Jeffrey Peacock
Joseph Clark	Tim Pelham
David Cone	Gregory Pierce
Kevin Cope	Mary Piper Jones
Bruce Cornett	Garry Pistole
Larry Cowan	Tom Piszkin
Jim Davis	Robert Ratcliffe
Lisa Davis	John Rickling
Gail Dimitroff	Richard Rico
Sandra Dominguez	Dave Rodger
Bob Dupuis	Lori Rose
Britt Edmondson	Dick Ruffe
Dan Eimers	Sherry Russo
John Esposito	Gayleen Sabater
Chuck Fenske	John Saugen
Cynthia Fernandez	Bill Secrist
Tom Ford	John Shackelford
Steve Gallup	Michael J. Smith
Carol Galzerano	Kevin Snoddy
Kathy Gentry	Lerre Solsvig
Tom Georgi	Lillian Soto
Chris Getner	Jim Spornick
Ken Gowen	Nora Tillis
Ron Green	John Tonkovitz
Pattie Greener	Dianne Torrance
Tami Guillory	Tom Tyczkowski
Sharon Hanson	Wendy Walker
Kelly Harris	John Washburn
Ken Henderson	Paul Watrous
Mark Hibbard	James Wells
Eldon Kasl	Theresa Wheeler
Robert Keith	Kelly Whitehead
Karin Klemsche	James Winger
Ernest Knapp	Cathy Woyanowski
Janet Lacefield	John Zientara



Recent college hires participate in a discussion led by Jeff Irons, director of Business Development, during a reception held at the CRA Pavilion. The event followed the fourth semiannual Big Picture Orientation, giving employees an opportunity to learn about other departments and to understand their role at Space Systems Division.

A New Age of Competitiveness

By Al Lovelace

We are entering a challenging time for our division.

In the past, many of our programs were awarded on cost-type contracts. In those days, any cost incurred on either development or production contracts were paid by the customer.

Then, about five years ago, our customers decided to shift to fixed price contracts on development and production programs. This placed the challenge of cost containment onto the contractor.

Now, with our Atlas program shifting to commercial procurements, even the price is not fixed. Any profit we make is ours, but the costs we incur must be paid out of corporate profits. We have assumed the risks ourselves, and we did so in exchange for the opportunity to benefit from better performance.

To date, our sales are actually exceeding our goals; but meeting the estimated budget is a big challenge. Every dollar that exceeds the budget comes right out of our profit or bottom line. In turn, however, every dollar saved increases that same bottom line.

Two questions come to mind: "Why are we having budget problems?" and "How are we going to make up ground?"

To answer the first question, it is very difficult to estimate the amount of work required to accomplish a task as complex as restarting our Atlas production and launch operations. There were unplanned upgrades to our processes and facilities that were necessary to make our systems

more customer-responsive. In addition, performance to our operating budgets has been lower than expected.

Now, what are we going to do to get back on track? In the near term, we are reevaluating tasks, implementing continuous reviews, and developing plans to make more effective use of our program resources. For the long haul, we are implementing our Total Quality Management (TQM) program.

TQM is much more than a buzzword. The program centers around continuously improving how we all do our jobs. To be successful, everyone must work together to reduce unnecessary work and maintain schedules. If you have some time and your co-worker is overloaded, pitch in and help. If you have an idea on how to do a job smarter, talk to your supervisor and implement it. The success of TQM and the continuous improvement philosophy in this new commercial environment has been, and will continue to be, a critical factor in ensuring we meet, and hopefully exceed, our goals.

Many of you may think of GD as a multibillion dollar company, which we are. But to a large extent, the corporation views each division as an independent business unit. We have to stand on our own merits and, by meeting or exceeding our goals, we have the opportunity to stand out among our sister divisions.

We will keep you updated on our progress in becoming a more competitive company to demonstrate that your efforts really do make a difference.

11/17/89

Programs Update

Atlas Programs

Atlas I

Atlas Booster 5049 (AC-69) arrived at the KM Pressure Pit from AF Plant 19 on November 4. The booster has successfully completed pressure testing; it will now be sent to Vandenberg Air Force Base, where it will begin final assembly.

The 37-inch payload adapter and separation system for Eutelsat has completed Static Load Testing.

The first 14-foot-diameter Payload Fairing Rotation Test was completed at Harlingen on November 9. The test was supported by CCAFS personnel and no significant problems were found. Plans are progressing for the Fairing Jettison Test at Plum Brook, Ohio, later this month.

Atlas II

At Cape Canaveral Air Force Station Complex 36A, the umbilical tower steel warpage problem has been fixed, and the contractor has completed the erection of the tower's last 40 feet.

POGO Suppressor Design is moving rapidly, and structural dynamics and thermodynamics analyses are nearing completion. The suppressor implementation schedule supports its use on the first Atlas II with the exception of Qualification Unit availability. It will require considerable effort by all those involved to overcome this situation.

National Testing Services (NTS) is continuing to have Flame Bucket Test setup and data problems. Two GD engineers have been on site to assist NTS with the complications. Test completion is planned for approximately November 30.

Titan/Centaur Program

TC-8 has completed wash station work and pressure pit tests and is currently in KM 5 T/C final assembly dock 1. Final assembly is in, with vehicle checkout scheduled to start on December 10.

Effort continues to be made to meet the TC-8 planned ship date of March 9, 1990. Three-shift activity has been implemented, and parts and subassembly deliveries continue to be expedited. Extreme care, however, is required to ensure delivery of a high-quality (reliable) product to the launch site.

The Data Acquisition System (DAS) and Inertial Measurement Group (IMG) are in the final phases of Qualification Testing at Gulton and Honeywell. The IMG for TC-8 was delivered on October 24. The TC-8 DAS Unit has completed acceptance testing. The Sequence Control Unit (SCU), Qual Unit, and the TC-8 Pyrotechnic Controller (PYC), all built by GD Electronics, have been delivered.

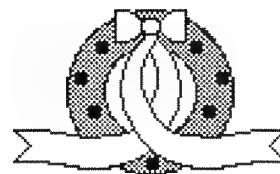
Air Force Plant 19 continues major weld activity on TC-9 and TC-10 propellant tanks.

Vandenberg Air Force Base has initiated work on the TC-10 vehicle harness assemblies.

ATTENTION: Because of the demise of Greater San Diego Health Plan, open enrollment for medical plan changes only will be extended until November 30. This does not apply to other benefits.

Hourly employees who wish to change their medical plan should visit the Employee Benefits office. Salaried employees should call the Benefits Infoline at 73000 for assistance.

Making a Difference to Those Less Fortunate



The holidays are a time of sharing and reaching out to those in need.

Many families will not have food on the table or toys under the tree this holiday season unless others give them a helping hand.

At Space Systems, we are providing employees the chance to really make a difference for the families in our communities less fortunate than we.

In San Diego, the Holiday Food Drive will be held the first week of December in an effort to provide food to needy families who would otherwise not be able to share in the joy of the holiday season.

There will be barrels stationed at every gate for employees to fill with nonperishable food items. If every employee brings just one can, the food drive could meet its needs for six months.

Space Systems' goal is five of the 100 tons targeted for the entire food drive.

Cape Canaveral Air Force Station is once again planning for its Needy Family Christmas Fund. An aluminum can collection drive, submarine sandwich sales, and See's candy orders are just some of the fund raisers helping to make this program a success. The funds will be used to deliver food and gift certificates to area families in need of assistance.

November 27 is the deadline for all CCAFS sales and program application forms to be turned in.

Vandenberg is holding its annual Toys for Tots campaign, handled through the California Central Coast Area Council. This year, M&Ms and raffle tickets are being sold. Profits will be used to purchase new toys which will be distributed along with the toys collected to Operation Outreach, Christmas Cheer, and the Salvation Army. There will also be a cash donation to the VAFB Exchange for underprivileged airmen.

SPACE BRIEFS

The *Orbiter* will be on vacation until December 15. . . . A **lunch seminar** on "Communicating with Your Teenager" will be held December 1 in the KM 26 MIC Conference Room, first floor, at 11 and 11:30 a.m. . . . A **red pin bowling** event for all CCAFS employees will be held on December 17. To sign up, call Maggie Lima at 39242. . . . The **Ecology Club's** next meeting will be December 13 from 11:30 a.m. to 12:30 p.m. in the KM2 Presentation Conference Room on the second floor. A video on the Belize Rain Forest will be shown. For more information, call Solange at 75777. . . . Congratulations to **Greg Clarke**, who finished 59 out of 1,200 in the Iron Man Triathlon held in Hawaii on October 14. . . . Congratulations to **Keith Schick**, Quality Assurance's October Employee of the Month. . . . **CRA Travel** and Holland America Line invite you to a program featuring the ms Nieuw Amsterdam on November 29 at 7 p.m. in the CRA Pavilion. For reservations, call 38248. . . . A **Family Care Workshop** on reasons for inappropriate child behavior will be held November 28, 4:45 to 6:15 p.m., at the KM CRA, room C. To register, call 39915. . . . **Employment** for the week ending November 3 was 4,855.



Holiday Celebrations Abound!



in San Diego...

Mark your calendars for the Space Systems holiday dinner and dance to be held at the Sheraton Harbor Island East on December 15.

Ed Squires will host the event, which will include elegant dining and dancing to the sounds of Georgetowne Express.

Tickets are \$25 per person for NMA members and \$35 for nonmembers. Sheraton is offering special overnight rates.

at Vandenberg Air Force Base...

This year's Christmas party, hosted by Design Engineering, will be held at the Santa Maria Airport Hilton on December 9.

Following a dinner of either prime rib or chicken cordon bleu, the band "Longshot" will play music for dancing.

The cost is \$12.50 per employee or \$25 for an employee and one guest. Each additional guest will be \$25.

at Cape Canaveral Air Force Station...

All employees are invited to join the annual Christmas party on December 1 at the Cocoa Beach Holiday Inn. A buffet dinner will be followed by dancing to the tunes of Tuxedo.

Tickets are on sale until November 27. Cost is \$6 per person for union and NMA members and one companion, and \$11 per person for salaried non-NMA members and one companion. Additional guests are \$20 per person.

Earthquake Resources Available

The Safety and Health department has resources available for employees seeking additional information on earthquakes.

1. Copies of a home preparedness videotape produced by the San Diego Office of Emergency Management entitled "What's Shaking in San Diego" are available for employees to checkout and take home. Call Teresa Cabading at 65702.
2. Copies of the videotape "What's Shaking in San Diego" may be obtained from Safety and Health by supervisors who want to show it during employee meetings. Contact Jo Thomas at 39107 to get a copy of the 13-minute tape. Arrangements for a VCR will have to be made separately.
3. "What's Shaking in San Diego" will be shown continuously in the cafeteria during lunch the week of November 27.
4. The earthquake information found in the Pacific Bell White Pages was published in the Safety Committee booklet distributed to supervisors so they could share it with their employees during the monthly safety meetings.
5. The National Management Association and the Safety and Health department are cosponsoring a presentation by Sue Anderson of Grossmont Hospital on earthquake preparedness. It will be held November 27, 4:30 p.m., in the KM 2 Presentation Conference Room (top of spiral stairs). Reservations can be made through Catherine Hogan at 67344 or Jo Thomas at 39107.

The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Paul Doty, program control analyst — work together, to show the superior products they produce, and to share newsworthy information.

A program control analyst is a master scheduler of division activities. Paul analyzes schedule requirements for Atlas vehicles and coordinates schedule plans for development, production, and launch.

Scheduling has been a challenging and rewarding responsibility for Paul. In 1987, just one month after hiring into the Scheduling department, he was given the assignment of scheduler for AC-68. Being able to follow the vehicle through production was a very proud accomplishment for him.

Paul began a baseball career as a pitcher with the New York Yankees' minor league team in 1981 after playing for Grossmont College, San Diego State University, and Brigham Young University. His best pitch was his fastball, which he threw to some of the current big league players.

Paul has been married to his wife, Shelley, for eight years. They have three daughters, Ashley, Heather, and Alyssa.

— Bill Walker, SDSU Intern

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Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9551
Camille Kahlert, Huntsville	880-0660
Karen Young, Editor	

Security Inspection Coming Soon

The Defense Investigative Service (DIS) will be at GDSS beginning December 4 for its semiannual security inspection.

The purpose of the inspection, which will take at least one week to complete, is to assure the government that employees handling classified information follow established guidelines and procedures when dealing with it.

DIS also wants to determine first-hand if cleared employees know how classified information is to be controlled and safeguarded, and if they are aware of their reporting requirements.

Cleared employees will be interviewed by DIS on a random basis. Routine questions might include:

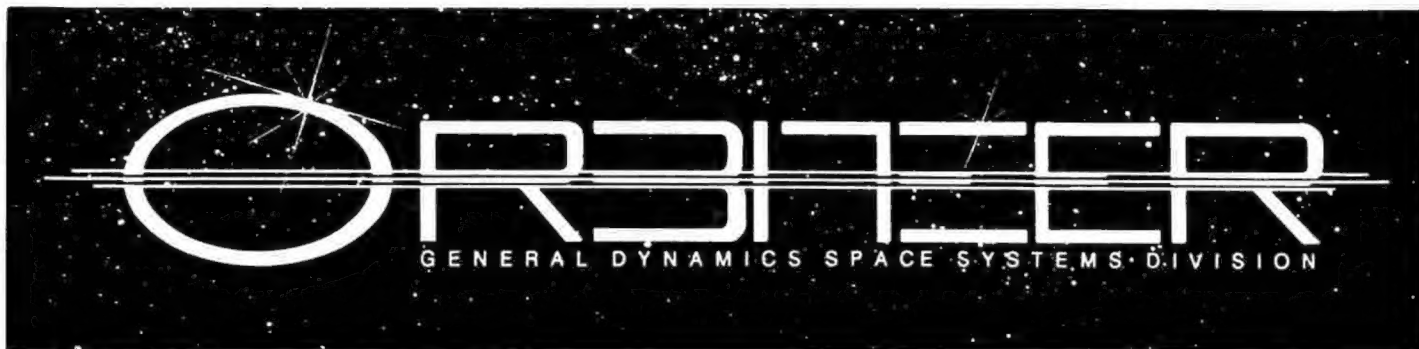
"When did you last have access to classified information?"

"What is the first step when you generate classified material?"

"What personal information, or changes to information previously supplied, are you required to report to Industrial Security?"

If any of these questions do not bring an immediate response to mind, please talk to your department security representative or call Industrial Security at 75660, 75694, or 75089.





December 15, 1989

MRP II IS COMING. . .



The MRP II team: (front row, from left) Pete Morris; Kimberly Lostetter; Nancy Rodriguez; Rich Ingardia; (second row, from left) Hydrie White; Dave Young; Dom De Crescenzo; Mike Beebe; John Shalhoub, director, MRP II and IRM; Monty Dickinson, Corporate staff vice president, Materials; Dr. Alan Lovelace, vice president and general manager, GDSS; Jo Anne Harby; Ace Hall, vice president and general manager, DSD; Merrie Johnston; (third row, from left) Ann Stonecipher; Kathie Poindexter; Pam Pierce; Ken Henderson; Bill Greenwood; Ron Miller; Homer Spears; Jeff Owens; (back row, from left) Gabrielle Ivany; Lee Biss; Julie Pashkowsky; Jeff McCreary; John Rixey; and Greg Gauer.

On October 31, Space Systems Division celebrated its MRP II project kick-off with Ace Hall, vice president and general manager, DSD, and Monty Dickinson, corporate staff vice president, Materials, in attendance.

MRP II, or Manufacturing Resource Planning, is a proven set of tools for managing a manufacturing business.

However, MRP II is not just about manufacturing. It pertains to better teamwork, productivity, and improved relationships. In all, it aims at improving the quality of life at Space Systems and finding a better way to run our business.

In the early days of MRP, computers were the focus of attention. While it is true that computers are necessary for massive data manipulation, today we recognize that people are what make MRP II happen. People, not machinery, make the decisions and perform the

tasks that keep our business alive.

MRP II is a tool that provides accurate priorities and on-line feedback for the decisions that people make to operate the business. It supplies better information so that people can work smarter and perform at a higher level. It is truly a people system.

The scope of the program includes: configuration management, inventory control, requirements planning, shop floor control, master scheduling, purchasing, finance, and accounting.

With MRP II, the entire company operates from the same game plan, using one set of data to run the whole business. Once all the areas are tied together, they no longer work independently. The results are improved communications and increased efficiency for the division as a unit.

So how will MRP II affect the

employees of Space Systems?

Education will come first. During the implementation process, all division personnel will receive MRP II orientation. In areas where software changes occur, extensive training will be conducted on the specific MRP II applications.

Many changes are necessary in our policies, procedures, and computer systems. The MRP II implementation process will alter how we do business and help put a new spin on the wheels of progress.

This project will be costly and will be a long-term commitment, but the rewards are great. We will all benefit from better relationships, teamwork, and productivity.

We will keep you informed of our progress with the MRP II program in future issues of the *Orbiter*.

GD Plays Major Role in ARC's Dream-Come-True

The Association for Retarded Citizens (ARC) held a ground breaking ceremony November 20 for its new \$2.3 million North Shores facility in Kearny Mesa.

ARC's dream of owning its own building site for learning-disabled persons was fulfilled in large part by a \$150,000 donation by General Dynamics Corporation.

Space Systems' Vice President and General Manager Dr. Alan Lovelace and Charlie Lloyd, vice president and managing director, Commercial Launch Services, were among the ceremony officials. Charlie is a member of the ARC Board of Directors.

The event began with vintage cars and a 1936 fire engine rolling behind a Marine Corps color guard and the Hilltop High School band during a procession to the weed-covered site.

When completed in the fall of 1990, the North Shores center will accommodate about 150 learning-disabled people who will work at the center, doing packaging and assembly jobs.

"We support ARC not only because it's the right thing to do, but also because it makes good sense to invest in those enterprises that provide mutual benefit," said Dr. Lovelace.

In recognition of our contribution to ARC, it is planned that a section of the new North Shores center will be named after General Dynamics.



Breaking ground for ARC's new North Shore Center are: (from left) Charlie Lloyd, vice president and managing director, CLS; Dr. Alan Lovelace, GDSS vice president and general manager; Lynn Bolden, program director, North Shores Center; Arthur Neumann, North Shores Chapter president; Ceci Hurtado, representative of Congressman Bill Lowery; and Dr. Richard Farmer, executive director, ARC.

Audit of GDSS Procurement System Brings Good Report

The Defense Contract Administration Services Plant Representative Office (DCASPRO) audit team recently conducted a Prime Contractors' Control of Subcontractors Review (PCSR) of the GDSS procurement system.

Overall, the team found our system to be quite thorough in applying the basic elements of a good Procurement Quality Assurance system. Only one potential system problem was identified along with some individual problems with specific vendors.

In addition to the many GDSS systems elements reviewed, the team audited six vendor facilities to assess our control. Certain findings call for corrective action; however, they were isolated problems and did not represent general failures in the basic system requiring significant corrective action.

The team expressed appreciation that the audit was performed in a very constructive manner, providing GDSS with valuable input to improve our Procurement Quality Assurance functions.

New Recognition Program Focuses on Teamwork

The Defense Contract Administration Plant Representative Office initiated an Employee Recognition Program to honor employees from Space Systems, Convair, and Electronics Divisions for their contributions to the teamwork required to improve the DCASPRO acquisition process.

Richard Rico of GDSS Quality Assurance was the first employee to receive the honor. He was recognized as one who contributes to the acquisition process through teamwork, integrity, and leadership in the spirit of Total Quality Management (TQM).

GD Improves Scholarship Program

General Dynamics Corporation will improve its college scholarship program in 1990 by introducing a new program administrator and increasing the amount of individual awards.

Citizens' Scholarship Foundation of America will be the program's financial administrator. Three \$5,000 awards will be given to outstanding students who exhibit financial need. Two \$1,500 awards will go to outstanding students without regard to financial need. Awards to women and minorities will be given in proportion to the number of applicants.

Eligible students must be children of General Dynamics employees and must be high school seniors who plan to major

in engineering, physics, mathematics, chemistry, computer science, or business at an accredited four-year college or university. All scholarships are renewable up to three years based on satisfactory academic performance.

Space Systems employees who are interested in the program may contact Margaret Beard at 39274 for brochures and application forms. Applications must be postmarked by February 1, 1990, and sent to the Citizens' Scholarship Foundation of America.

GD will continue to support those students who have received grants through the previous administrator, the National Merit Scholarship Corporation.

ATTENTION: Beginning January 8, there will be a new cafeteria located in Century Park, Building 3, first floor.

The cafeteria will provide a variety of soups, salads, and sandwiches from 11 a.m. to 1 p.m. Monday through Friday.

Vending machines and microwave ovens, which are already in use, will be accessible during all working hours.

12/15/89

Atlas Launch Sales Pass Halfway Point With Galaxy Win

Space Systems' Atlas program, currently projected for 60 launch vehicles, has passed the halfway point in sales of launch services to commercial and military markets.

Commercial Launch Services (CLS) recently announced a firm order for two Atlas I launches of Galaxy communications satellites for Hughes Communications, Inc., a subsidiary of Hughes Aircraft Company. This order brings the number of firm commercial commitments to 22, with options for eight others. The United States Air Force also has ten launches planned on Atlas.

The 3,163-pound Galaxy satellites will be launched from Complex 36B at Cape Canaveral Air Force Station by a General Dynamics team that has launched 37 communications satellites to date. The first Galaxy will lift off in October 1991, and the second will launch in the first quarter of 1992.

The two Galaxy satellites will be built by Hughes Aircraft Co. They will be the first replacements in the six-satellite Galaxy/Westar fleet, owned and operated by Hughes Communications. The satellites will serve major cable television programmers, including Home Box Office, ESPN, Turner Broadcasting, Cinemax, Arts and Entertainment, and USA Network. The satellites feature high transmit power, improved internal redundancy, and extended lifetime.

CLS offers a complete launch service package, including spacecraft integration, launch operations, and placing the spacecraft into orbit. The Atlas family of launch vehicles is able to satisfy a major share of the commercial launch market through the 1990s.

There are currently four versions of the Atlas. The Atlas I is an improved version of the Atlas/Centaur. Atlas II builds on the Atlas I configuration to provide increased performance capability. Atlas IIA is similar to the Atlas II and offers an updated propulsion system. Atlas IIA is outfitted with four Castor IVA solid rocket motors and can place payloads of up to 7,700 pounds into orbit.

GDSS Awarded for Its Civic-Minded Juror Support

Space Systems was recently honored at a special unprecedented awards ceremony in recognition of its support for employees called upon to serve jury duty.

GDSS was one of 41 civic-minded companies recognized for continuing to pay employee salaries during their jury involvement in exceptionally long trials.

State law requires companies to release jurors for service, but does not mandate that they pay them.

Last year, approximately 40 percent of jurors summoned for duty had to be excused because of economic hardship.

"Most jurors simply cannot afford to serve if employers do not continue their salaries," said Superior Court Executive Officer Kenneth Martone.

Bernie Kulchin, vice president of Human Resources, accepted the award on behalf of Space Systems. Assistant Presiding Judge Judith McConnell emceed the event.



**SPACE
BRIEFS**



Congratulations to **Jo Thomas**, Human Resources Employee of the Quarter for the third quarter. . . . Please check your paycheck stub to be sure that it has your correct address. If yours is incorrect, you can pick up a **Change of Address** form from the Employee Benefits office. . . . CRA Travel is sponsoring a trip to the **Oberammergau Passion Play**. The 17-day trip starts September 12, 1990. For more information, call 38248. . . . GDSS has opened a **new program office** in Colorado Springs. It will be managed by **James Ratliff**. . . . Congratulations to Quality Assurance's Employee of the Month for November, **Evelyn Fowler**. . . . **CRA Players** are presenting "Plaza Suite," a Neil Simon comedy. It will run from December 15 to 18 at 8 p.m. on Friday and Saturday, and 5 p.m. on Sunday. Call **Tom Walker** at 78534 for details. . . . **Employment** for the week ending November 24 was 4,887.

PROMOTIONS

Congratulations to these people who recently received promotions. The list includes all hourly, salaried, and management support employees.

Greg Adolph	Ann Dibble	Tom Kniss	Tim Salazar
Kim Allen	Joseph Duffie	Susan Koester	John Sardina
Joseph Archutowski	Angie Emilo	Sid Kusunoki	Jack Schlank
Greg Arend	Rey Enano	Nicholas Liddi	Suzanne Schumacher
Carla Arnold	Gladys Fayson	Randy Liuag	Nada Shirwani
Jeanette Arrigo	Mil Francis	Jacqueline Loper	David Silva
Nicholas Berardi	Dennis Garegnani	Mike Malone	Manny Silva
Jon Barr	Ron Genung	Gary McAnally	Billy Simmons
Vickie Bertrand	Don Glenn	Grace McGovern	Phil Smith
Ken Brackin	Abe Goldberg	Rhonda McKay	Joe St. Lucas
Kenneth Brinkmann	Chuck Goldblum	Jim Mikkelsen	Virginia Szatkowski
Olen Britnell	Carolyn Green	Ken Miller	Shawn Taylor
Karen Campbell	Mark Griffith	Jane Money	William Taylor
Floyd Campbell, Jr.	Jack Hamner	John Nakai	Wendy Tse
Jodie Cannon	Ted Hardy	Wayne Nash	Ken Tucker
Don Carnley	William Harrison	Tim O'Brien	Tim Valentine
John Casani	Eric Hogan	Tom O'Connor	George Vlcek
David Caudle	Tim Holt	Bill O'Rourke	Mark Ware
Michael Chiara	John Jodka	John Pieper	Kevin Whelan
Donald Clute	Deb Kania	Debra Price	Phillip Whisnant
Richard Clyne	Steven Kelly	Becky Redmon	Cheryl Wilburn
Tom Dabbs	Kathy Kendrick	Dave Richter	Archie Yates
Ray Dailey	Sally Kim	Mike Robbins	Nancy Young
Dan Decosta	Lloyd King	Spencer Roberts	Karen Zylius

Vandenberg Gives \$20,000 in Software to Schools Districts

During American Education Week, November 12 - 18, GDSS Vandenberg, in conjunction with American Enterprise of the National Management Association, donated over \$20,000 of software to the Santa Maria and Lompoc Unified School Districts.

Chuck Harter, director of Vandenberg Operations, made the presentations, emphasizing the future need for highly skilled and technically trained employees.

Space Systems recognizes that helping schools through donations such as this and supporting the schools within our communities is no longer just our civic duty, but a matter of self-interest as well. The students of today will be our future employees, and businesses more than ever need people who can communicate, handle math, and possess technical skills.

GD Chairman and Chief Executive Officer Stan Pace recently announced, "Our commitment to competitiveness requires that the next generation be better educated, not less educated, than the preceding one. General Dynamics wants to do its part in assuring that it is."

Could It be the Holiday Blues?

by Mike Felchlin

If you haven't been informed yet by the television, radio, or newspaper blitz, the holiday season is now upon us. Now that Thanksgiving has come and gone, we are officially notified that it's time to start thinking and living the holiday season.

For many of us, this time of year represents excitement and anticipation. However, it also brings with it a very stressful period brought on by a dramatic change in our lifestyle routines and can result in what is generally recognized as the "holiday blues."

Many factors may contribute to this change in mood:

- * Marked difference in our eating and sleeping habits
- * Increase in our average consumption of sweets
- * Increased consumption of alcohol
- * Financial pressures generated by holiday spending

Also included in this period are certain sights or scents that remind us of better times of less responsibility or perhaps just happier times in general. These factors can lead to physiological bouts of depression, headaches, or listlessness. To some people, the holidays represent a very difficult time of the year. Many are without friends or family during the holidays and become bewildered at their lack of excitement.

The "holiday blues" will impact a number of us in various ways and for most, the feeling will pass. It is not a slump we consciously get ourselves into, but often it can be extremely difficult to escape. If you are finding the holiday season is becoming something that you dread, the Employee Assistance Program (EAP) will be available for you throughout the holiday season.

To contact the EAP, call National Resource Consultants (our EAP providers) at 291-0330 or 1-800-999-7222.



The purpose of the Space Systems Division *Orbiter* is to report the way employees — like Lloyd King, manufacturing engineer — work together, to show the superior products they produce, and to share newsworthy information.

Lloyd arrived at GD in January of 1986 with a new mechanical engineering degree. He had spent nine years in a machine shop in Tucson as machinist and shop foreman.

Today, Lloyd supports design engineering by improving the designs in their manufacturability and to reducing costs.

"Just about anything can be made," he says. "My job is to find a way to make it just as good, but at a lower cost."

Lately, much of Lloyd's time is spent trying to make the interface for the Titan forward adapter more producible. The interface is where the payload attaches with our payload adapter. His goal is to "snip the problems of interface in the bud, before problems arise in the production phase because the factory can't achieve the tolerances."

Lloyd has been actively involved in flying for the past 20 years. He has his commercial pilot's license and owns his own plane. He and his wife, Suzanne, enjoy flying their plane to Tucson to visit their families.

— Bill Walker, SDSU intern

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Reporters

Rita Jackson, CCAFS	853-7571
Lela Reddekopp, VAFB	866-9556
Camille Kahlert, Huntsville	880-0660

Karen Young, Editor

FARCUS GETS THE BOOT

The editorial staff of the *Orbiter* has taken the position that a long-term cartoon feature of our newsletter no longer be run in these issues.

Farcus, the editor's cartoon that appeared in the November 3 issue, was insensitive to the concerns of the total workforce at the division. For this, we apologize!

The editorial staff of the *Orbiter* wish to thank everyone at Space Systems for their continued support of our newsletter.

We hope we have fulfilled our purpose in bringing you newsworthy information about our division and its employees.

We look forward to serving you next year and wish you a very happy holiday season. We will be back January 12.

